



## CITY OF READING, PENNSYLVANIA

ENVIRONMENTAL DIVISION  
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READING, PA 19601-3690  
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PUBLIC WORKS  
DEPARTMENT

January 29, 2007

Ms. Margaret L. Hutchinson, Esq.  
Assistant United States Attorney  
Civil Division Eastern District of Pennsylvania  
615 Chestnut Street  
Suite 1250  
Philadelphia, PA 19106-4476

Re: City of Reading Consent Decree  
Calendar Quarterly Progress Report  
4<sup>th</sup> Quarter 2006

Dear Ms. Hutchinson:

In accordance with Section VI Reporting Requirements, Paragraph 41, you will find enclosed the City of Reading's Calendar Quarterly Report. This documents progress and status on the implementation of Section V Remedial Measures described in Paragraphs 7 through 40. Additionally, an update on penalty payment and the Angelica Stream Restoration SEP is included. Please feel free to contact me at 610-655-6258 should you have any comments or questions.

Sincerely,

Deborah A.S. Hoag, P.E.  
Utilities Division Manager

DH/eh

Cc: Christopher A. Day, Esq., US EPA  
✓ Lisa Trakis, US EPA  
Water Quality Manager, PA DEP, SC Region  
Charles M. Jones, P.E., Director of Public Works  
Ralph E. Johnson, Superintendent  
Stephen K. Hydro, P.E., Black & Veatch  
David A. Binder, Esq., Legal Counsel  
file

FEB 7 2007



**City of Reading Consent Decree  
Calendar Quarterly Progress Report  
Period Ending December 31, 2006**

**V. REMEDIAL MEASURES**

**A. General Duties**

**7. Duty to Comply with Permit** – In progress. The City's wastewater treatment plant had no NPDES permit violations during this quarter.

**8. Operation and Maintenance of the Facility** – In progress. The City continues to work to formalize and document the operational and maintenance procedures related to the treatment plant, pump stations, collection system, and laboratory.

**B. Interim Measures**

**9. Interim Compliance – Environmental Management System**

**(a) Submission** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on May 5, 2006. *The City awaits a response for the approval of the system and its components listed below as proposed.*

**(b) Maintenance Management System** - Continuing progress. The City continues the planned implementation of improved and expanded use of the Antero computerized maintenance management system. This ongoing increased use of the maintenance management system includes beginning recurring work orders for maintenance upon discovery of the unaddressed cause of any problem. The use of this system is treated as an ongoing tool for the facilities' operations and maintenance. Completion of the spare parts inventory labeling and organization for the mechanical and electrical maintenance may be delayed a few months from the City's November 2006 goal due to the unanticipated time demands for the June flood recovery efforts.

**(c) Supervisory Control and Data Acquisition (SCADA) system**

**1. Interim SCADA System** – Completed and certified.

**2. Upgrades to SCADA System** – Not applicable. Upgrades not required based upon the submission and approval of paragraph 18. While not required by the Decree, the City continues progress with this operational tool in planning for the future plant improvements and ensuring operational consistency. Black & Veatch (B&V) has been retained to oversee the SCADA development for consistency and the development of standards and conventions for future use in the plant upgrades. Some additional operational parameters will be added to the SCADA system. Some existing screens have been and will be modified for operational and visual consistency. During this quarter, the focus was improved operation of the existing plant to ensure consistent plant operations. Following an earlier workshop conducted by B&V for operators and supervisors to provide input in the development of standards and conventions, B&V began drafting the City-specific standards and

conventions to be applied to SCADA programming and screens. A draft of this work will be prepared for the City's review before finalization. Finally, B&V continued work for the automation and control of the solids withdrawal pumping from the primary clarifiers and the tertiary aeration system's gravity solids withdrawal. The draft operating control block was provided as well as preliminary documents for electrical modifications required prior to implementation.

**(d) Pretreatment Data Management System** – Continuing progress.

The City continues the ongoing data entry into a commercial pretreatment database as well as an abbreviated spreadsheet upon receipt of analytical results from both City sampling and self-monitoring.

**10. Interim Plant Influent Monitoring** – Completed and continuing as required.

**11. Interim Trickling Filter Performance Measures** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on February 17, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the request to change sampling locations for trickling filter continuing monitoring. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**(a) Performance Improvements** – Completed and ongoing as part of the Operations and Maintenance plan using the Computerized Maintenance Management System.

**(b) Unit Efficiency Monitoring Recirculation Rate** – Completed.

**(c) Recirculation Rate** Completed with flow monitoring continuing. The plant experienced failures with the flow totalizer during a mid-July power outage. Parts availability resulted in the need to replace the entire chart recorder which was completed in October 2006. During the absence of the flow totalizer, the new variable primary recirculation flow control system in the SCADA system was fully functional. While investigating the plant's operational flexibility, staff discovered a prior location and method for secondary trickling filter recirculation that was previously unknown as it had been buried when removed from use and not indicated on plant piping diagrams. Plant staff started to investigate what may be needed in order to rehabilitate the components for this secondary stage recirculation. Flow metering for operational control and monitoring does not appear to be an option. Staff will continue this investigation for a possible operational improvement.

**(d) Longer Term Monitoring and Reporting** – Completed and continuing with modified locations as approved.

**12. Process Control Testing** – Completed and continuing as required. Plan submitted to US DoJ, US EPA, and PA DEP on February 7, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the request to change sampling locations for treatment units' continuing monitoring. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**13. Dangerous Gas Detection** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on February 7, 2006. Some sensors and components in the basements of flood-impacted buildings required replacement. All have been

replaced or repaired with the exception of one of the LEL sensors in the main control building which the vendor has been unable to restore to proper. This is located closest to a digester which is out of service for cleaning and repairs so personnel safety is not compromised

**14. Certified Plant Operators** – The City currently has six shift supervisors who are assigned as follows: day, evening, night, and rotating shifts, operational maintenance, and administrative. The sixth and final shift supervisor began work on August 1, 2006 and the final details about the shift rotation were addressed while he completed his training period. All shift employees had input to determine the schedule for continuous coverage to start following the training period of the rotating shift supervisor. The supervisors began this continuous coverage on November 1, 2006 as scheduled. The operational maintenance shift supervisor has hired with the appropriate license for the facility. The evening supervisor passed the certification examination and is acquiring the required operational experience prior to receiving his plant license. This supervisor had been employed at the treatment plant in an operations position prior to his promotion which reduces the amount of operating time required prior to his becoming certified. The night shift supervisor took the certification examination during July 2006. He has passed the general knowledge and collection system components and retested for and passed the fixed film component in November 2006. The first shift and administrative shift supervisors took the certification examination in November 2006. The first shift supervisor passed the collection system and general knowledge components. The first shift supervisor is scheduling to retest the fixed film component in March 2007. The administrative shift supervisor passed the collection system, general knowledge, and fixed film components. The rotating shift supervisor is scheduled to take the certification examination in spring of 2007. Shift supervisors are informed during the interview process and required by their positions description to pass the appropriate certification examination within twelve (12) months of hire or promotion into the position. With most of the shift supervisors new to the wastewater field, they are still required to obtain the requisite operating experiencing prior to being issued their certification. The treatment alternative as approved according to paragraph 18 requires a different certification component than the current treatment plant. Most of the shift supervisors are planning to take the activated sludge module during the certification process so they are prepared for the plant's transition. *As discussed in the March 21<sup>st</sup> meeting (and the July 10<sup>th</sup> telephone conference), the new supervisory employees do not have specific wastewater experience prior to their hire but are required to pass the certification exam within twelve months of hire. PA DEP certification experience and training requirements do not allow the issuance of the operator certification based solely on the passing of the examination. Alternate language was proposed due to the difficulty recruiting already certified personnel to fill these positions and the timing required to obtain certification to provide the level of staffing required. The City suggests changing from "individual shall be required to obtain certification within 12 months of the date of hire" to "individual shall be required*

to pass the certification examination within 12 months of the date of hire” *The City still awaits the formal response regarding the proposed alternate language.*

**15. Operations and Maintenance Plan** - Completed. Plan submitted to US DoJ, US EPA, and PA DEP on May 5, 2006. *The City awaits a response for the approval of the plan and its components listed as proposed.* Progress continues with future planned activities as discussed in the submitted plan. In the assessment of key processes, the City took action to eliminate bottlenecks and vulnerabilities to improve the performance of the existing plant. This was done as a necessary step to ensure regulatory permit compliance until the construction and start-up of the new facilities. These are the interim improvements required in the Capital Improvements Plan. The City continues to make additional improvements beyond the initial assessments as part of the continual reevaluation and optimization of plant operations.

**16. Staffing Plan** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on November 30, 2005.

**17. Interim Wet Weather Operational Strategy** - Completed. Plan submitted to US DoJ, US EPA, and PA DEP on November 7, 2006. *The City awaits a response with comments to the strategy submitted. Any comments received are to be addressed in the Wet Weather Operation Plan required by Paragraph 29.*

### **C. Long Term Evaluation and Construction Schedule**

**18. Treatment Plant Alternatives Submission** –Completed. See below.

(a) **Existing Plant Process Evaluation Report** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 17, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the selected liquid and solids treatment technologies. Response received from PA DEP on May 23, 2006 acknowledging compliance.

(b) **Evaluation of Treatment Alternatives Report** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 17, 2006 and formal presentation of the report and findings conducted at March 21<sup>st</sup> meeting. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the selected liquid and solids treatment technologies. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**19. Capital Improvements Plan** – In progress. Initial costs for biological treatment and solids handling facilities were developed as part of the plant and treatment alternatives report. Common facilities including headworks facilities and disinfection alternatives are being evaluated that were not required for the treatment alternative report. B&V is developing alternatives and cost estimates for wastewater routing between the 6<sup>th</sup> and Canal PS headworks and plant headworks as well as plant and pump station improvements required as a result. B&V coordinated for the City to perform additional testing to investigate the compatibility of disinfection methods with the approved treatment alternative and existing influent characteristics. Current evaluations and preliminary sizing may require refinement as flow projections are finalized, common facility evaluations

are completed, and construction staging and final site layout are determined. The capital costs estimates are being finalized in order to evaluate the requisite budgetary impact of the improvements. Since the internal City customers' sewer bills are dependent upon the metered water consumption, City Council requested an independent utility analysis of both the wastewater and water utility funds and inter-related financial operations due to the significant implications. A separate committee has been formed to interface, develop a scope for the study, and select a consultant to perform this audit and analysis which will provide the City with the best long-term financial solution and ability to evaluate budgetary impacts. In the assessment of key processes for the Operations and Maintenance Plan, the City took action to eliminate bottlenecks and vulnerabilities as well as to evaluate and make cost-effective interim upgrades for performance improvements to the existing plant. This was previously submitted as part of the Operations and Maintenance Plan required by Paragraph 15. The City did this earlier than required as a perceived necessary step to ensure regulatory permit compliance until the construction and start-up of the new facilities. Additionally, the City continues to make improvements beyond the initial assessments as part of the continual reevaluation and optimization of existing plant and operations.

**20. Request for Proposals – In Progress.** The City initiated the process for developing the request for proposals (RFP) for the WWTP upgrade. The City began defining elements and protocols to be included within the RFP and began internal discussions between Public Works and Purchasing. A final date for issuance has not been clarified based on time line discrepancies within the consent decree; however, the City is working toward issuance in February 2007.

**21. Permit Applications and Design – No progress.**

**22. Permitting – Not applicable.**

**23. Construction Completion – No progress.**

**24. Start-Up and Operation – No progress.**

#### **D. Collection System**

**25. GIS Mapping System - In progress. See below.**

**(a) Purpose of GIS System - Not applicable.**

**(b) GIS Mapping of the Sanitary Sewer Collection System – In progress.** The 2005 aerial photography of the collection system has been accepted following quality control checks by the City GIS Coordinator. With the assistance of City sewer team personnel, ATS Chester began field data collection in July, 2006. The initial phase for field data collection is the sanitary interceptors and force mains with phase two being the remaining sanitary structures. The GIS mapping follows each phase's data collection with submission to the City for review and approval. During this quarter, ATS Chester provided the phase one data collected during the third quarter in an electronic GIS format. This was reviewed for consistent format and connectivity by the City's GIS personnel in the IT department. Additionally, B&V reviewed the data for physical field accuracy based upon the studies they have conducted to date. Detailed comments and notes were provided for ATS Chester to

incorporate into the final GIS data. The City continued to investigate field locations in especially problematic areas as noted by ATS Chester. Tentatively, ATS Chester anticipates a late winter return to validate data obtained in wooded areas with bare trees so satellite communications and accuracy are optimal. From there, they will continue with the phase two data collection.

**(c) GIS Mapping of the Storm Water Collection System** - In progress. The third phase for field data collection and GIS mapping is the storm water system. Many of the structures were collected while ATS Chester performed phases one and two data collection, however the GIS mapping for the sanitary will precede the storm water system mapping. As the City had no electronic version of the storm water system, B&V developed a rough layout for use as a starting point in field data collection. With a storm water inspection that occurred as a result of the June flood, the City discovered that many storm system improvements constructed in the 1980's were not updated on the index map in use and digitized by B&V. City engineering personnel were notified of this discrepancy and will be working to determine what improvements were not included. B&V will then update the digitized index map for ATS Chester to use for guidance.

## **26. Sanitary Sewer System Evaluation Program**

### **(a) I/I Analysis by Subsystem**

**1. Baseline Flow and Rainfall** – In Progress. The flow monitoring and data reduction have been completed by B&V for the I&I analysis. A draft report was submitted to the City for review and comment. Limited reliable data was available for the existing system and tributary populations. Draft prioritization of areas and predictions for peak flows were developed; however, data is being refined as new information is received. The City has met with all but one of the satellite municipalities to gather information on current and future populations, I&I mitigation programs, and definition of tributary areas. In addition, the City has progressed with its program for data collection on the City's system through GPS mapping. Based on the collection and refinement of new data, the I&I analysis is anticipated to be completed within the first quarter of 2007.

**2. Hydraulic Modeling** – In Progress. The City has reviewed its system configuration and limitations for consideration in the selection of a hydraulic model. Based on the complexity of the system, B&V recommended a dynamic model named InfoWorks. The ongoing GPS field investigations are being performed in stages with priority being placed on the sanitary sewer interceptors in order to facilitate the hydraulic modeling. Preliminary data sets for the interceptors were received from ATS Chester and reviewed for completeness. The City continues dialogue with the ATS Chester and B&V to expedite the modeling process. Additional field investigations are anticipated in the first quarter of 2007.

Upon development of a satisfactory inventory of data, B&V will begin setting up the model and defining modeling parameters and calibration needs.

**(b) Sewer System Evaluation Survey – In Progress.** The process for the SSES was initiated with the flow monitoring program for the I&I analysis. The City has worked with B&V to develop a manhole numbering system for the sanitary sewer system. A preliminary assignment of identifiers was made to manholes indicated on available historical mapping. The GPS contractor is currently performing field investigations to define the system and resolve discrepancies found between record drawings and the actual infrastructure in the field. The City has also initiated the development of a GIS to assist in the management of data. Although not explicitly required within the Consent Decree, the City has engaged B&V to develop a maintenance, operation and management (MOM) plan for the collection system in order to help set priorities and standardize operations of City sewer crews. The MOM plan is intended to serve as a guide for the execution of the required SSES as well as ongoing future maintenance of the collection system.

**27. Rehabilitation Plan – No progress.**

**28. Rehabilitation of Priority Areas of Collection System – No progress.**

**29. Wet Weather Operation Plan – In progress in coordination with 17 above.** The City continues to evaluate the plant, pump stations, and system performance with each wet weather event with the goal of maximizing flow to and through the WWTP while minimizing and preventing SSOs and bypasses. An independent hydraulics engineer has been working to evaluate critical components as well as pump stations to determine cost-effective interim improvements where appropriate. As part of this evaluation, the tertiary pump station was determined to be the limiting factor for forward flow at the treatment plant. This pump station had had several interim improvements already completed and operates as designed. With an existing additional slot for another pump, the City is working to install the fifth pump to improve the station's capacity and maximize the flow through the plant. Additionally, piping and valve locations at the plant have been studied looking for ways to relieve flow restrictions within the plant and at the adjacent grit chamber. Planned testing will occur during subsequent extreme high flow events and included in this plan.

#### **E. Pretreatment Program**

**30. General Duty – In progress.** The City has an approved pretreatment program and continues to regulate industrial users in the collection system.

**31. Enforcement Response Plan (ERP) Implementation – In progress.** The City continues to follow the ERP in order to encourage compliance from all industrial dischargers.

**32. ERP - Penalty Escalation and Compliance Schedule – In progress.** The City has been escalating penalties for all industries that are in significant non-compliance for a given parameter for two consecutive quarters. This is reported directly with the quarterly industrial pretreatment status reports to US EPA. The



City will continue with this reporting method for the future. Tracking of the penalty collection has been difficult due to a 2005 software change in the Finance department. Most problems occur during the transitional period and require coordinating resolution between Finance and IT to have an accurate report for tracking payment status. Determining and resolving the source of these errors is ongoing. The recent data appears accurate for tracking the penalties assessed.

**33. ERP – Order, Permit Revocation, and Federal Referral – In progress.**

The City continues escalating the enforcement actions focusing on the financial penalties assessed to permittees who remain in significant non-compliance. The City continues issuing penalties for compliance issues that were not fined previously such as pH, late reports, late sampling, and late permit applications. Consent agreements were finalized this quarter with two industries that have been in recurring significant non-compliance in the past and inconsistent non-compliance at other times for the same parameters. These will be provided as part of the fourth quarter and annual pretreatment reports.

**34. Local Limit Adoption by Contributing Municipalities – In progress.** The City has most of the municipal adoption completed. All the municipalities with permitted industries have adopted the ordinance. US EPA provided the status from the 2005 audit listing the municipalities requiring ordinance adoption. This has been discussed with solicitors and directly with individual municipalities in question. Electronic versions of the City's sewer use ordinance have been provided to each municipality, engineer, and/or solicitor to prepare for adoption. To date, no feedback has been received regarding the adoption but the authorities now understand that it must be completed by the municipality.

**35. Non-Residential Connection Evaluation and Investigation – In progress.** The City has been working with the contributing municipalities to obtain information in order to send a survey to evaluate nonresidential users that may be subject to the pretreatment program. This has been requested among other submissions from individual municipalities.

**36. Increased Monitoring for Violators – In progress.** The City continues to increase City sampling and self-monitoring for frequent violators. In general, permits may be amended or re-issued requiring multiple resamples for parameters with prior compliance issues. Some permits require increased frequency of monitoring for multiple quarters of compliance prior to returning to a less frequent self-monitoring schedule. Additional monitoring by both the City and the industry is being tracked and reported to US EPA quarterly.

**37. Pretreatment Computerized Management System - In progress and continuing.** The City continues data entry into a commercial pretreatment database as well as an abbreviated spreadsheet upon receipt of analytical results from both City and industrial sampling.

**38. Local Limits Re-Evaluation – Completed.** Evaluation submitted to US DoJ and US EPA on May 5, 2006. Comments were received from US EPA on July 6, 2006. The City has been working with B&V to address the comments and concerns. A letter will be forthcoming addressing the concerns noted.

**39. Quarterly SNC Reports to US EPA – In progress.** The report for the second quarter was submitted with the penalty payment status report as developed

by the IT department. This still contains known inaccuracies during the transitional period and requires coordinating resolution between Finance and IT to have an accurate report for tracking payment status.

#### **F. Funding**

**40. Funding** – In progress. The 2007 budget was adopted by City Council with \$750,000 less in the transfer from the sewer fund to the general fund. The current budgeted transfer amount is \$3,750,000.

#### **IX. CIVIL PENALTY**

**47. and 49. Penalty Amount and Payment Instructions** – Completed. Payment submitted on November 9, 2006 to the United States of America and the Commonwealth of Pennsylvania for the final 50% of the civil penalty due. This was paid equally to both parties in accordance to the payment instructions provided in the document.

#### **X. SUPPLEMENTAL ENVIRONMENTAL PROJECTS: Angelica Stream Restoration**

##### **52. Details of SEPs listed below**

- a) **Background** - Not applicable.
- b) **Goals of SEPs** - Not applicable.
- c) **Removal of excess sediment and soil stabilization SEP**
- d) **Angelica Creek Restoration SEP**
- e) **Angelica Creek Riparian Buffer SEP**
- f) **Wetland Creation SEP**
- g) **Flood plain Meadow SEP**
- h) **Annual Maintenance and Access to SEPs**
- i) **Design Costs and Final Plan**
- j) **Defendant Certification**
- k) **SEP Completion Report**

The final construction permits were received during September, 2006. The project was advertised for construction bids during October, 2006. Bids were opened and a contract was awarded to E. Kuser, Inc., 150 Grings Hill Road, Sinking Spring, PA 19608, in the amount of \$1,131,161.13. Construction began on November 27, 2006.

The winter months so far have been very kind to the City of Reading. As a result, construction proceeded without interruption. So far, the area was cleared of unwanted trees and shrubs, erosion and sedimentation control facilities were installed, and the reach of the Angelica Creek upstream from the existing footbridge was restored. That restoration included some realignment, cutback of the stream banks, and lining of the banks with riprap in critical areas. Pumping of the stream flow was required during the realignment process.

Weather permitting, construction will proceed through the remaining winter months. At any rate, all work is scheduled to be completed by June 15, 2007.

## **Additional Items related to Consent Decree**

### **Personnel**

**Systems Superintendent** – During the 2006 budget process, the City restructured the Public Works department and the Environmental (now Utilities) division therein. The Systems Superintendent position was created to be responsible for the sanitary and storm sewer systems as well as the geographic information system (GIS). During April, the person in this position resigned. The City advertised internally and externally in the newspaper and trade associations prior to beginning the interview process. On November 13, 2006, the selected person started with the City. While he does not possess direct wastewater system experience, he has extensive water utility experience which is applicable and provides a basis for prioritizing work.

**Operator Certification** – The City administration supported management in both water and wastewater during AFSCME contract negotiations. The administration interpreted the new DEP certification regulation to compel certain rank and file AFSCME positions to obtain PA DEP operator certification. Personnel in those positions are given 24 months in which to pass the appropriate certification exams. New hires or transfers into operations are advised of the certification need initially and given materials to read and review as part of their orientation and training. During the third quarter, one rank and file employee sat for the appropriate certification examination and passed the collection system and general knowledge modules. An additional rank and file operator took the certification examination in the fourth quarter and passed the collection system. Both of these employees plan to take the required modules to be able to become certified with the existing plant when they have the requisite experience.

**Individual EPWPCOA Award** – On November 17, 2006, Russell Stoudt, Maintenance Supervisor, received the Eastern PA Water Pollution Control Operators Association (EPWPCOA) Daniel H. “Dan” Treat Memorial Award. Daniel H. “Dan” Treat Memorial Award for an employee at a facility greater than 2 MGD. The award is presented to an individual facility manager, superintendent, foreman, or shift supervisor that has followed in the footsteps of Dan in sharing his knowledge of the wastewater industry with others. Previously, this was known as the EPWPCOA Operator of the Year award. Russ’ operations and maintenance background and his management skills have been instrumental for the City’s operational successes evidenced by the plant’s permit compliance and continual improvements in both operations and maintenance.

### **Operations and Maintenance**

**June 27–29, 2006 Flood** –The WWTP and system are addressing the last problem from the flood event. This final item involves an electrical contractor troubleshooting and replacing wires in the portion of the plant that was most impacted by the flood.

**19<sup>th</sup> Ward PS Overflow Monitoring** –The chart recorder at this site was changed in October from a weekly chart to a daily chart per the recommendations of the hydraulic engineer studying the site. This is to enhance the ability to review pump operations during adverse conditions. Additionally, the secondary wet well level sensor that controls the pumps under high flow conditions has had a separate chart

recorder added for monitoring. This was tested to determine the level where the station may be overflowing and is being used to monitor the duration of any future overflows from this station.

**Computerized Maintenance Management System (CMMS) for Collection System**– To adequately perform and document an ongoing infiltration and inflow program, catalog televisual inspection, and track service calls in the collection system, the City determined the need for a formal method to catalog the information. Geographical documentation of this information was the selected method for the database structure. During this quarter, the selected firm has been working with the City to refine the scope of services for this contract. Due to the various software interfaces required, the firm began a separate task to refine the interface needs and provide a demonstration of the interfaces prior the contract's scope of services being finalized. This will be used initially for the sanitary and storm sewer systems with the pump stations switched to this software. As new treatment plant units are constructed and commissioned, they will also be added to this system which is planned to be used in most of the Public Works department ultimately.

**EPWPCOA Plant Award** - On November 17, 2006, the Reading WWTP received the 2006 Plant Operation and Maintenance Excellence Award for a facility greater than 2 MGD. During the presentation, the City's past permit violations and current status were discussed with a summary of key recent improvements. The presentation concluded saying "The City of Reading's Fritz Island Wastewater Treatment Plant is proof that the professional wastewater operator makes the difference in protecting public health and the environment."

### **Laboratory and Administration**

**Land and Building** – The City purchased a parcel of land in 2005 adjacent to the wastewater treatment plant to be used for the construction of a new building for the administration and the laboratory. The City finalized the agreement to purchase another parcel in order to move the collection system crew closer to the plant staff as many resources are and can be shared. Following a presentation to Council late in December, Council is expected to take formal action to purchase the property. The site will be studied with a needs assessment and physical survey. Land development and building design will be following as this will be expedited to provide flexibility during the actual plant construction.

**Independent Laboratory Audit** – With the recent increase in regulation for environmental laboratories that are regulated by PA DEP, the City has opted to have an independent laboratory audit conducted. The goal is to discover and correct any deficiencies prior to the field audit by PA DEP lab accreditation personnel.

### **Administrative**

**Contributing Municipalities** - During December, the City and B&V met individually with eleven of the twelve municipalities that contribute flows to the City's wastewater system and plant. The purpose was to provide background information and the City's current status including technical information related to the Consent Decree requirements. Also, the City wanted to obtain current status of flow projections and I&I reduction efforts. Some municipalities and authorities had

their own staff or officials in addition to the appropriate engineers. The final municipal meeting, which involves an authority as well, is expected to occur early in 2007. *A copy of the technical meeting agenda and list of topics is attached for review.*

**Response Times and Clarifications** – The City continues to work in good faith on compliance issues outlined with in the consent decree. There is concern regarding delays in regulatory responses for questions posed during meetings or within progress reports. The City has not received response to questions posed during the March 2006 meeting or the July 2006 teleconference.

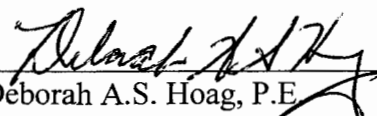
**NPDES Permit Limits** – The NPDES permit renewal has not been received despite the permit expiration on May 1, 2006. Draft limits by one MGD increments have been provided for design purposes but a draft permit has not been received to date. During the discussion following the application, the reduction of permit limits by PA DEP seemed to be a forgone conclusion despite having a Consent Decree report stating the existing plant is unable to meet the limits consistently. The City would entertain the concept of an extension of existing permit limits or interim limits during the construction phase until the new facilities are on-line.

## **VI. REPORTING REQUIREMENTS**

### **41. Report Contents and Certification**

- (a) **Remedial Measures Paragraphs 7 through 40** – See above numbered sections.
- (b) **Anticipated Problems** – See above numbered sections.
- (c) **Additional Matters** – See above unnumbered sections.
- (d) **Certification Statement** –

I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my directions and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, the information submitted, is to the best of my knowledge and belief, true, accurate, and complete.

  
\_\_\_\_\_  
Deborah A.S. Hoag, P.E.  
Utilities Division Manager

01/25/2007  
Date

**City of Reading**  
**Department of Public Works - Utilities Division**  
**Consent Decree and Related General Topics**  
**Intermunicipal Technical Meeting Agenda**

- Introductions/Sign In/Contact Info
- Reading Compliance History and Current Status
- General Consent Decree - Scope and Timelines
  - Civil Penalty - No Impact on Municipalities per Agreements
  - Remedial Measures
    - Interim Measures
    - Wastewater Treatment Plant (WWTP) Evaluation and Construction
    - Collection System
    - Pretreatment Program
    - Funding
  - Angelica Supplemental Environmental Project (SEP)
  - Stipulated Penalties - No Impact on Municipalities per Agreements
    - Project Milestones/Construction/Deliverables/Implementation/SEP & \$
    - NPDES Effluent/Sanitary Sewer Overflows (SSOs) by Volume/%SNC
- Specific Consent Decree Topics Requiring Interaction and Input
  - WWTP
    - Treatment Alternatives - Executive Summary
    - Population and Flow Projections
    - Capital Improvements Plan with Financial Impacts
    - Requisite Act 537 Plan/Study
    - Request for Proposal/Design/Permitting/Construction
  - Collection System
    - GIS Mapping (Aerial/Connection Point/Municipal/Industrial Users)
    - Flow Metering
    - Inflow & Infiltration (I&I) Evaluation by Subsystem
    - Hydraulic Model
    - Sewer System Evaluation Survey
    - Rehabilitation Plan/Rehabilitation of Priority Areas
    - Wet Weather Operations Plan
  - Pretreatment Program
    - Background and General Purpose
    - Penalty/Response/Monitoring Escalation
    - Local Limit Evaluation & Adoption
    - Evaluate Non-Residential/Certification

- General and Related Consent Decree Topics
  - WWTP
    - Treatment Alternatives and Common Facilities
    - Headworks and Conveyance Alternatives
    - Municipal Act 537 Plan Status/Request
    - Future Planning and Zoning
    - Projected Needs Certification for Sizing
  - Collection System
    - Connection Point/Metering/Pump Station Field Survey
    - Flow Metering & Electronic Data for I&I Analysis
    - Municipal I&I Program & Priorities
    - Wet & Dry SSOs - Cause/Monitor/Prevent
  - Pretreatment
    - Legal Authority-Municipal SUO Adoption
    - Non-Residential Flow Information
    - Significant Non-Compliance (SNC)
    - Industrial User (IUs) Types - CIUs/SIUs/nonSIUs
    - Industrial Waste Survey by City
    - Oil & Grease Limits in Permits
- General Related Topics
  - Planning Module Requirements
    - Tracking Connection Points and Flows
    - Impact on System & Flow Modeling
  - Construction Impacts
    - Connection and Plumbing Permits (Non-Residential Impact)
  - Info Requests and Formats
    - Chapter 94
    - EDUs/Connections for Rates
    - Non-Residential Flows
    - Quarterly Invoices w/ Detailed Technical Data
  - Municipal Programs & Specifications
    - Oil & Grease - Requirements/Inspection/Monitoring
    - Standard Specifications/Inspection/Testing
    - Industrial/Commercial Classification



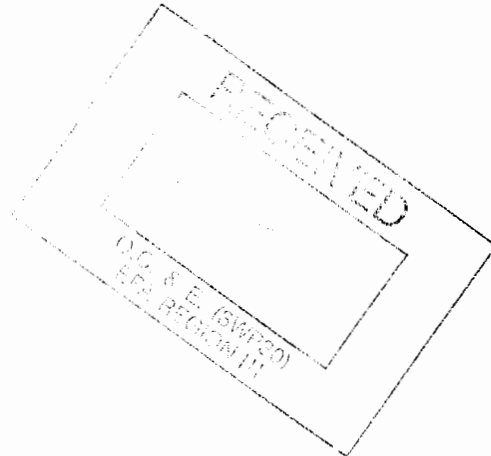
## CITY OF READING, PENNSYLVANIA

ENVIRONMENTAL DIVISION  
815 WASHINGTON STREET  
READING, PA 19601-3690  
(610) 655-6258

PUBLIC WORKS  
DEPARTMENT

April 30, 2007

Ms. Margaret L. Hutchinson, Esq.  
Assistant United States Attorney  
Civil Division Eastern District of Pennsylvania  
615 Chestnut Street  
Suite 1250  
Philadelphia, PA 19106-4476



Re: City of Reading Consent Decree  
Calendar Quarterly Progress Report  
1<sup>st</sup> Quarter 2007

Dear Ms. Hutchinson:

In accordance with Section VI Reporting Requirements, Paragraph 41, you will find enclosed the City of Reading's Calendar Quarterly Report. This documents progress and status on the implementation of Section V Remedial Measures described in Paragraphs 7 through 40. Additionally, an update on penalty payment and the Angelica Stream Restoration SEP is included. Please feel free to contact me at 610-655-6258 should you have any comments or questions.

Sincerely,

Deborah A.S. Hoag, P.E.  
Utilities Division Manager

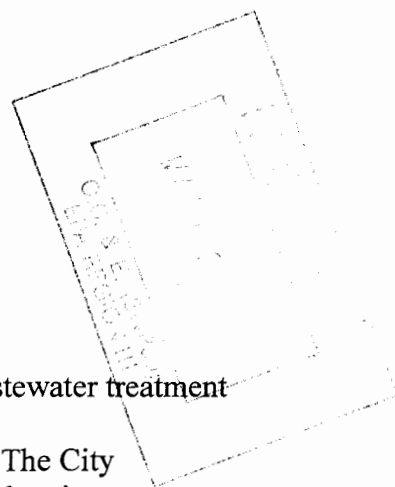
DH/eh

Cc: Christopher A. Day, Esq., US EPA  
✓ Lisa Trakis, US EPA  
Water Quality Manager, PA DEP, SC Region  
Charles M. Jones, P.E., Director of Public Works  
Ralph E. Johnson, Superintendent  
Stephen K. Hydro, P.E., Black & Veatch  
David A. Binder, Esq., Legal Counsel





**City of Reading Consent Decree  
Calendar Quarterly Progress Report  
Period Ending March 31, 2007**



**V. REMEDIAL MEASURES**

**A. General Duties**

**7. Duty to Comply with Permit** – In progress. The City's wastewater treatment plant had no NPDES permit violations during this quarter.

**8. Operation and Maintenance of the Facility** – In progress. The City continues to work to formalize and document the operational and maintenance procedures related to the treatment plant, pump stations, collection system, and laboratory.

**B. Interim Measures**

**9. Interim Compliance – Environmental Management System**

**(a) Submission** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on May 5, 2006. *The City awaits a response for the approval of the system and its components listed below as proposed.*

**(b) Maintenance Management System** - Continuing progress. The City continues the planned implementation of improved and expanded use of the Antero computerized maintenance management system. This ongoing increased use of the maintenance management system includes beginning recurring work orders for maintenance upon discovery of the unaddressed cause of any problem. The use of this system is treated as an ongoing tool for the facilities' operations and maintenance. Completion of the spare parts inventory labeling and organization for the mechanical and electrical maintenance was delayed a few months from the City's November 2006 goal due to the unanticipated time demands for the June flood recovery efforts. The majority of the labeling and organization has been completed with a reassessment and reevaluation for completeness ongoing.

**(c) Supervisory Control and Data Acquisition (SCADA) system**

**1. Interim SCADA System** – Completed and certified.

**2. Upgrades to SCADA System** – Not applicable. Upgrades not required based upon the submission and approval of paragraph 18. While not required by the Decree, the City continues progress with this operational tool in planning for the future plant improvements and ensuring operational consistency. Black & Veatch (B&V) has been retained to oversee the SCADA development for consistency and the development of standards and conventions for future use in the plant upgrades. Some additional operational parameters will be added to the SCADA system. Some existing screens have been and will be modified for operational and visual consistency. During this quarter, the focus was improved operation of the existing plant to ensure consistent plant operations. Following an earlier workshop conducted by B&V for operators and supervisors to provide input in the development of standards

and conventions, B&V began drafting the City-specific standards and conventions to be applied to SCADA programming and screens. A draft of this work was prepared for the City's review and comment. B&V continued work for the automation and control of the solids withdrawal pumping from the primary clarifiers and the tertiary aeration system's gravity solids withdrawal. Following the draft operating control block review, documents were prepared for electrical modifications required prior to implementation. A site visit from B&V enabled the study of potential radio communication from a smaller sanitary sewer pumping station as well as the City's storm water pumping station.

**(d) Pretreatment Data Management System** – Continuing progress. The City continues the ongoing data entry into a commercial pretreatment database as well as an abbreviated spreadsheet upon receipt of analytical results from both City sampling and self-monitoring.

**10. Interim Plant Influent Monitoring** – Completed and continuing as required.

**11. Interim Trickling Filter Performance Measures** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on February 17, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the request to change sampling locations for trickling filter continuing monitoring. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**(a) Performance Improvements** – Completed and ongoing as part of the Operations and Maintenance plan using the Computerized Maintenance Management System.

**(b) Unit Efficiency Monitoring Recirculation Rate** – Completed.

**(c) Recirculation Rate** - Completed with flow monitoring continuing. Plant staff discovered a prior location and method for secondary trickling filter recirculation that was previously unknown as it had been buried when removed from use and not indicated on plant piping diagrams. Following investigation by plant staff, rehabilitation of the components for this secondary stage recirculation was completed. Flow metering for operational control and monitoring was investigated as well as physical limitations that potentially interfere with and reduce accuracy for the flow metering. Staff will continue this investigation for a possible operational improvement although it appears it may have been abandoned for just cause due to some noted limitations.

**(d) Longer Term Monitoring and Reporting** – Completed and continuing with modified locations as approved.

**12. Process Control Testing** – Completed and continuing as required. Plan submitted to US DoJ, US EPA, and PA DEP on February 7, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the request to change sampling locations for treatment units' continuing monitoring. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**13. Dangerous Gas Detection** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on February 7, 2006. Inspection and calibration are being done routinely and repairs when noted upon inspection.

**14. Certified Plant Operators** – The City currently has five shift supervisors who are assigned as follows: day, evening, and night, operational maintenance, and administrative. The supervisors began continuous coverage on November 1, 2006 as scheduled. The operational maintenance and evening shift supervisors have the appropriate license for the facility. The night shift and administrative shift supervisors have passed the general knowledge, collection system, and fixed film components. They require additional operating experience prior to PA DEP issuance of the facility's appropriate certification. The former first shift supervisor passed the collection system and general knowledge components but failed to retest and pass the fixed film component in accordance with his job offer letter, position description requirements, and the proposed language amendment listed below. As such, he is no longer employed in this capacity. The rotating shift supervisor is now the first shift supervisor and took the certification examination in March of 2007 for general knowledge, collection system, and fixed film components. To date, he has not received his results although failure notices have been sent which indicates passing of at least one of the components. He has already planned to take any missed components in July of 2007. Shift supervisors are informed during the interview process and required by their positions description to pass the appropriate certification examination within twelve (12) months of hire or promotion into the position. With most of the shift supervisors new to the wastewater field, they are still required to obtain the requisite operating experience prior to being issued their certification. The treatment alternative as approved according to paragraph 18 requires a different certification component than the current treatment plant. Most of the shift supervisors are planning to take the activated sludge module during the certification process so they are prepared for the plant's transition. The operational maintenance shift supervisor already has the required certification for the new facility. The second shift and administrative supervisors may take the activated sludge component in July of 2007. The first shift supervisor has registered for the July examination and will adjust the components taken based on his results and other personnel requiring certification. *As discussed in the March 21<sup>st</sup> meeting (and the July 10<sup>th</sup> telephone conference), the new supervisory employees do not have specific wastewater experience prior to their hire but are required to pass the certification exam within twelve months of hire. PA DEP certification experience and training requirements do not allow the issuance of the operator certification based solely on the passing of the examination. Alternate language was proposed due to the difficulty recruiting already certified personnel to fill these positions and the timing required to obtain certification to provide the level of staffing required. The City suggests changing from "individual shall be required to obtain certification within 12 months of the date of hire" to "individual shall be required to pass the certification examination within 12 months of the date of hire" The City still awaits the formal response regarding the proposed alternate language.*

**15. Operations and Maintenance Plan** - Completed. Plan submitted to US DoJ, US EPA, and PA DEP on May 5, 2006. *The City awaits a response for the approval of the plan and its components listed as proposed.* Progress continues

with future planned activities as discussed in the submitted plan. In the assessment of key processes, the City took action to eliminate bottlenecks and vulnerabilities to improve the performance of the existing plant. This was done as a necessary step to ensure regulatory permit compliance until the construction and start-up of the new facilities. These are the interim improvements required in the Capital Improvements Plan. The City continues to make additional improvements beyond the initial assessments as part of the continual reevaluation and optimization of plant operations.

**16. Staffing Plan** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on November 30, 2005.

**17. Interim Wet Weather Operational Strategy** - Completed. Plan submitted to US DoJ, US EPA, and PA DEP on November 7, 2006. *The City awaits a response with comments to the strategy submitted. Any comments received are to be addressed in the Wet Weather Operation Plan required by Paragraph 29.*

### **C. Long Term Evaluation and Construction Schedule**

**18. Treatment Plant Alternatives Submission** – Completed. See below.

**(a) Existing Plant Process Evaluation Report** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 17, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the selected liquid and solids treatment technologies. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**(b) Evaluation of Treatment Alternatives Report** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 17, 2006 and formal presentation of the report and findings conducted at March 21<sup>st</sup> meeting. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the selected liquid and solids treatment technologies. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**19. Capital Improvements Plan** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 16, 2007. Preliminary costs for biological treatment and solids handling facilities were developed as part of the plant and treatment alternatives report. Common facilities including headworks facilities and disinfection alternatives are being evaluated that were not required for the treatment alternative report. B&V developed a draft disinfection alternatives report for City review and comment. B&V is developing alternatives and cost estimates for wastewater routing between the 6<sup>th</sup> and Canal PS headworks and plant headworks as well as plant and pump station improvements required as a result with conservative cost estimates used for the submitted Capital Improvements Plan. Current evaluations and preliminary sizing may require refinement as flow projections are finalized with contributing municipalities, common facility evaluations are reviewed and approved, and construction staging and final site layout are determined.

In the assessment of key processes for the Operations and Maintenance Plan, the City took action to eliminate bottlenecks and vulnerabilities as well as to evaluate

and make cost-effective interim upgrades for performance improvements to the existing plant. This was previously submitted as part of the Operations and Maintenance Plan required by Paragraph 15. The City did this earlier than required as a perceived necessary step to ensure regulatory permit compliance until the construction and start-up of the new facilities. Additionally, the City continues to make improvements beyond the initial assessments as part of the continual reevaluation and optimization of existing plant and operations.

**20. Request for Proposals – In Progress.** The City initiated the process for developing the request for proposals (RFP) for the WWTP upgrade. The City began defining elements and protocols to be included within the RFP and began internal discussions between Public Works and Purchasing. City Council was presented with and approved the option of using a request for qualifications (RFQ) to pre-qualify the engineering firms invited to respond to the RFP. This should eliminate potential conflicts of interest, significantly reduce the RFP review time, and ensure a good response from qualified firms who are able to meet the City's timeline. A final date for issuance has not been clarified based on time line discrepancies within the consent decree; however, the City is working to finalize the RFQ for advertisement.

**21. Permit Applications and Design – No progress.**

**22. Permitting – Not applicable.**

**23. Construction Completion – No progress.**

**24. Start-Up and Operation – No progress.**

#### **D. Collection System**

**25. GIS Mapping System - In progress.** See below.

**(a) Purpose of GIS System - Not applicable.**

**(b) GIS Mapping of the Sanitary Sewer Collection System – In progress.** The 2005 aerial photography of the collection system has been accepted following quality control checks by the City GIS Coordinator. With the assistance of City sewer team personnel, ATS Chester began field data collection in July, 2006. The initial phase for field data collection is the sanitary interceptors and force mains with phase two being the remaining sanitary structures. The GIS mapping follows each phase's data collection with submission to the City for review and approval. During this quarter, the City compiled internal review comments with those from B&V for ATS Chester phase one data collected during the third quarter. This had been reviewed for consistent format and connectivity by the City's GIS personnel in the IT department. Additionally, B&V reviewed the data for physical field accuracy based upon the studies they have conducted to date. ATS Chester return for two weeks in February, 2007 to validate data obtained in wooded areas with bare trees so satellite communications and accuracy are optimal. From there, they continued with the phase two data collection.

**(c) GIS Mapping of the Storm Water Collection System - In progress.** The third phase for field data collection and GIS mapping is the storm water system. Many of the structures are collected while ATS Chester

performs phases one and two data collection, however the GIS mapping for the sanitary will precede the storm water system mapping. As the City had no electronic version of the storm water system, B&V developed a rough layout for use as a starting point in field data collection. With a storm water inspection that occurred as a result of the June flood, the City discovered that many storm system improvements constructed in the 1980's were not updated on the index map in use and digitized by B&V. City engineering personnel determined what improvements were not included and updated the paper mapping from which B&V updated the digitized index map for ATS Chester to use for guidance.

## **26. Sanitary Sewer System Evaluation Program**

### **(a) I/I Analysis by Subsystem**

**1. Baseline Flow and Rainfall** – In Progress. The flow monitoring and data reduction have been completed by B&V for the I&I analysis. A draft report was submitted to the City for review and comment. Limited reliable data was available for the existing system and tributary populations. Draft prioritization of areas and predictions for peak flows were developed; however, data is being refined as new information is received. The City has met with all but one of the satellite municipalities to gather information on current and future populations, I&I mitigation programs, and definition of tributary areas. In addition, the City has progressed with its program for data collection on the City's system through GPS mapping.

**2. Hydraulic Modeling** – In Progress. The City has reviewed its system configuration and limitations for consideration in the selection of a hydraulic model. Based on the complexity of the system, B&V recommended a dynamic model named InfoWorks. The ongoing GPS field investigations are being performed in stages with priority being placed on the sanitary sewer interceptors in order to facilitate the hydraulic modeling. Preliminary data sets for the interceptors were received from ATS Chester and reviewed for completeness. The City continues dialogue with ATS Chester and B&V to expedite the modeling process. An additional two weeks of field investigations were completed by ATS Chester in the first quarter of 2007. Upon development of a satisfactory inventory of data, B&V will begin setting up the model and defining modeling parameters and calibration needs.

**(b) Sewer System Evaluation Survey** – In Progress. The process for the SSES was initiated with the flow monitoring program for the I&I analysis. The City has worked with B&V to develop a manhole numbering system for the sanitary sewer system. A preliminary assignment of identifiers was made to manholes indicated on available historical mapping. The GPS contractor is currently performing field investigations to define the system and resolve discrepancies found between record drawings and the actual infrastructure in the field. The City has also initiated the development of a

GIS to assist in the management of data. Although not explicitly required within the Consent Decree, the City has engaged B&V to develop a maintenance, operation and management (MOM) plan for the collection system in order to help set priorities and standardize operations of City sewer crews. The MOM plan is intended to serve as a guide for the execution of the required SSES as well as ongoing future maintenance of the collection system. B&V has started preparations for additional evaluation to be conducted in 2007 in accordance with the I&I report.

**27. Rehabilitation Plan** – No progress.

**28. Rehabilitation of Priority Areas of Collection System** – No progress.

**29. Wet Weather Operation Plan** – In progress in coordination with 17 above. The City continues to evaluate the plant, pump stations, and system performance with each wet weather event with the goal of maximizing flow to and through the WWTP while minimizing and preventing SSOs and bypasses. The system now has critical areas identified for routine inspection as well as event preparation and response. An independent hydraulics engineer has been working to evaluate critical components as well as pump stations to determine cost-effective interim improvements where appropriate. As part of this evaluation, the tertiary pump station was determined to be the limiting factor for forward flow at the treatment plant. This pump station had had several interim improvements already completed and operates as designed. The City installed the fifth pump to improve the station's capacity and maximize the flow through the plant. The WWTP effluent pipe to the Schuylkill River and discharge options are being reviewed. Additionally, piping and valve locations at the plant have been studied for ways to relieve flow restrictions both within the plant and at the adjacent grit chamber. Planned testing will occur during subsequent extreme high flow events and included in this plan. Standards operating procedures (SOPs) continue to be developed and revised for use under adverse conditions.

#### **E. Pretreatment Program**

**30. General Duty** – In progress. The City has an approved pretreatment program and continues to regulate industrial users in the collection system.

**31. Enforcement Response Plan (ERP) Implementation** – In progress. The City continues to follow the ERP in order to encourage compliance from all industrial dischargers. This quarter in compiling the annual report, some unique failures to report information occurred requiring the City to establish fines and categories for non-compliance to ensure future reporting compliance.

**32. ERP - Penalty Escalation and Compliance Schedule** – In progress. The City has been escalating penalties for all industries that are in significant non-compliance for a given parameter for two consecutive quarters. This is reported directly with the quarterly industrial pretreatment status reports to US EPA. The City will continue with this reporting method for the future. Tracking of the penalty collection has been difficult due to a 2005 software change in the Finance department. Most problems occur during the transitional period and require coordination between Finance and IT to have an accurate report for tracking



payment status. Determining and resolving the source of these errors is ongoing. The recent data appears more accurate for tracking the penalties assessed.

**33. ERP – Order, Permit Revocation, and Federal Referral** – In progress.

The City continues escalating the enforcement actions focusing on the financial penalties assessed to permittees who remain in significant non-compliance. The City continues issuing penalties for compliance issues that were not fined previously such as pH, late reports, late sampling, and late permit applications. The City contacted US EPA regarding a recent industrial discharge request that may be suspect and will continue to communicate as necessary.

**34. Local Limit Adoption by Contributing Municipalities** – In progress. The City has most of the municipal adoption completed. All the municipalities with permitted industries have adopted the ordinance. US EPA provided the status from the 2005 audit listing the municipalities requiring ordinance adoption. This has been discussed with solicitors and directly with individual municipalities in question. Electronic versions of the City's sewer use ordinance have been provided to each municipality, engineer, and/or solicitor to prepare for adoption. My early March, no feedback received indicated recent adoption but the authorities now understand that it must be completed by the municipality. The City has requested notification and proof of ordinance adoption be submitted.

**35. Non-Residential Connection Evaluation and Investigation** – In progress. The City has been working with the contributing municipalities to obtain information in order to send a survey to evaluate nonresidential users that may be subject to the pretreatment program. This has been requested among other submissions from individual municipalities.

**36. Increased Monitoring for Violators** – In progress. The City continues to increase City sampling and self-monitoring for frequent violators. In general, permits may be amended or re-issued requiring multiple resamples for parameters with prior compliance issues. Some permits require increased frequency of monitoring for multiple quarters of compliance prior to returning to a less frequent self-monitoring schedule. Additional monitoring by both the City and the industry is being tracked and reported to US EPA quarterly.

**37. Pretreatment Computerized Management System** - In progress and continuing. The City continues data entry into a commercial pretreatment database as well as an abbreviated spreadsheet upon receipt of analytical results from both City and industrial sampling.

**38. Local Limits Re-Evaluation** – Completed. Evaluation submitted to US DoJ and US EPA on May 5, 2006. Comments were received from US EPA on July 6, 2006. The City has been working with B&V to address the comments and concerns. A letter will be forthcoming addressing the concerns noted.

**39. Quarterly SNC Reports to US EPA** – In progress. The reports for the third and fourth quarters were submitted with the penalty payment status report as developed by the IT department. This still contains known inaccuracies during the transitional period and requires coordinating resolution between Finance and IT to have an accurate report for tracking payment status.



## **F. Funding**

**40. Funding** – In progress. The 2007 budget was adopted by City Council with \$750,000 less in the transfer from the sewer fund to the general fund. The current budgeted transfer amount is \$3,750,000.

## **IX. CIVIL PENALTY**

**47. and 49. Penalty Amount and Payment Instructions** – Completed.

## **X. SUPPLEMENTAL ENVIRONMENTAL PROJECTS: Angelica Stream Restoration**

### **52. Details of SEPs listed below**

- a) Background** - Not applicable.
- b) Goals of SEPs** - Not applicable.
- c) Removal of excess sediment and soil stabilization SEP** – In progress.  
Excess material is being removed as each phase of the project is completed. Some material is being retained on site particularly in the floodplain meadow area. The remainder is being removed from the site.
- d) Angelica Creek Restoration SEP** – Complete. The stream channel had to be stabilized before work in other areas could begin.
- e) Angelica Creek Riparian Buffer SEP** – In progress. Plantings remain to be completed.
- f) Wetland Creation SEP** – In progress. Estimated completion is 50%.
- g) Flood plain Meadow SEP** – In progress. Estimated completion is 60%.
- h) Annual Maintenance and Access to SEPs** – No progress. To be done after construction is complete.
- i) Design Costs and Final Plan** – Design complete with construction services remaining.
- j) Defendant Certification** – Not applicable.
- k) SEP Completion Report** – No progress. The final construction permits were received during September, 2006. The project was advertised for construction bids during October, 2006. Bids were opened and a contract was awarded to E. Kuser, Inc., 150 Grings Hill Road, Sinking Spring, PA 19608, in the amount of \$1,131,161.13. Construction began on November 27, 2006. Construction is anticipated to be complete by July 31, 2007 with the exception of some plantings that may be done in the fall. Upon substantial completion of project as awarded, the City will begin this report and the corresponding certification.

## **Additional Items related to Consent Decree**

### **Personnel**

**Operator Certification** – The City administration supported management in both water and wastewater during AFSCME contract negotiations. The administration interpreted the new DEP certification regulation to compel certain rank and file AFSCME positions to obtain PA DEP operator certification. Personnel in those positions are given 24 months in which to pass the appropriate certification exams. New hires or transfers into operations are advised of the certification need initially and given materials to read and review as part of their orientation and training. During the first quarter, one rank and file employee sat for the appropriate certification examination and awaits his results. An additional rank and file operator took the fixed film component of the certification examination in the first quarter as he had already passed the general knowledge and collection system components. Both of these employees plan to take the required modules to be able to become certified with the existing plant when they have the requisite experience. Based on the AFSCME contract language, July 15, 2007 is the initial date for employees who were in operational positions 24 months ago to be required to be certified. From there, new employees' certification requirements are being tracked based on the position start date. In order to avoid personnel staffing problems in multiple departments as of July 15, 2007, the City has been working with AFSCME to encourage personnel who do not intend to pursue certification to move into other positions as they are available.

### **Operations and Maintenance**

**19<sup>th</sup> Ward PS Overflow Monitoring** –The chart recorder at this site was changed in October from a weekly chart to a daily chart per the recommendations of the hydraulic engineer studying the site. This is to enhance the ability to review pump operations during adverse conditions. Additionally, the secondary wet well level sensor that controls the pumps under high flow conditions has had a separate chart recorder added for monitoring. This was tested to determine the level where the station may be overflowing and is being used to monitor the duration of any future overflows from this station. There were no high flow events at this pump station in the first quarter to test this monitoring system during adverse conditions.

**Computerized Maintenance Management System (CMMS) for Collection System**– To adequately perform and document an ongoing infiltration and inflow program, catalog televisual inspection, and track service calls in the collection system, the City determined the need for a formal method to catalog the information. Geographical documentation of this information was the selected method for the database structure. During this quarter, the selected firm provided a demonstration of the software interfaces prior the contract's scope of services being finalized. The initial intent was for the sanitary and storm sewer systems and the pump stations switched to this software. Following a project kickoff seminar with key personnel, wastewater treatment personnel determined it may be simpler to migrate from the existing CMMS software to the new software and have it debugged and personnel

gaining experience prior to the new plant's construction. This software is planned to be used in most of the Public Works department ultimately.

### **Laboratory and Administration**

**Land and Building** – The City purchased a parcel of land in 2005 adjacent to the wastewater treatment plant to be used for the construction of a new building for the administration and the laboratory. The City purchased an adjacent parcel in March, 2007. The site will be studied with a needs assessment and physical survey being completed following the request for proposal for these services. Land development and building design will be following as this will be expedited to provide flexibility during the actual plant construction.

**Independent Laboratory Audit** – With the recent increase in regulation for environmental laboratories that are regulated by PA DEP, the City has opted to have an independent laboratory audit conducted. The goal is to discover and correct any deficiencies prior to the field audit by PA DEP lab accreditation personnel. Four complex accredited parameters (TSS, CBOD<sub>5</sub>, NH<sub>3</sub>-N, and FC) conducted by the City's laboratory are subject to PA DEP audit and four parameters (pH, TRC, DO, and Color) are accredited by rule. The parameters accredited by rule have been reviewed by the auditor and two of the four more complex parameters and the requisite quality manual have also been reviewed to date.

### **Administrative**

**Contributing Municipalities** - During December, the City and B&V met individually with eleven of the twelve municipalities that contribute flows to the City's wastewater system and plant. The purpose was to provide background information and the City's current status including technical information related to the Consent Decree requirements. Also, the City wanted to obtain current status of flow projections and I&I reduction efforts. Some municipalities and authorities had their own staff or officials in addition to the appropriate engineers. During the first quarter, the City received information as requested from the municipalities. This review of data is continuing to plan for the future facilities capacity. The final municipal meeting, which involves an authority as well, has not been scheduled due to time constraints with annual reports being due. Intermunicipal agreements are being reviewed briefly as they are a shorter duration than what is used for planning purposes.

**Technical and Engineering** – City Council approved a resolution for the administration to initiate purchasing requirements for engineering, technical, and capital Consent Decree-related related qualifications, proposals, bids, and quotes. At the same time, they authorized an additional seven integral elements be added to the scope of work by B&V.

**Funding** - Since the internal City customers' sewer bills are dependent upon the metered water consumption, City Council requested an independent utility analysis of both the wastewater and water utility funds and inter-related financial operations due to the significant implications. A separate committee was formed to interface, develop a scope for the study, and select a consultant to perform this audit and analysis which will provide the City with the best long-term financial solution and

ability to evaluate budgetary impacts. During this quarter, an RFP was drafted for review of water authority billing structure and impact on wastewater system

**Response Times and Clarifications** – The City continues to work in good faith on compliance issues outlined with in the consent decree. There is concern regarding delays in regulatory responses for questions posed during meetings or within progress reports. The City has not received responses to questions posed during the March 2006 meeting or the July 2006 teleconference.

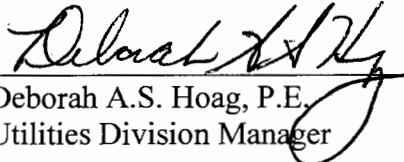
**NPDES Permit Limits** – The NPDES permit renewal has not been received despite the permit expiration on May 1, 2006. Draft limits by one MGD increments have been provided for design purposes but a draft permit has not been received to date. During the discussion following the application, the reduction of permit limits by PA DEP seemed to be a forgone conclusion despite having a Consent Decree report stating the existing plant is unable to meet the limits consistently. The City would entertain the concept of an extension of existing permit limits or interim limits during the construction phase until the new facilities are on-line.

## **VI. REPORTING REQUIREMENTS**

### **41. Report Contents and Certification**

- (a) Remedial Measures Paragraphs 7 through 40** – See above numbered sections.
- (b) Anticipated Problems** – See above numbered sections.
- (c) Additional Matters** – See above unnumbered sections.
- (d) Certification Statement** –

I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my directions and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, the information submitted, is to the best of my knowledge and belief, true, accurate, and complete.

  
\_\_\_\_\_  
Deborah A.S. Hoag, P.E.  
Utilities Division Manager

04/30/2007  
Date



## CITY OF READING, PENNSYLVANIA

ENVIRONMENTAL DIVISION  
815 WASHINGTON STREET  
READING, PA 19601-3690

PUBLIC WORKS  
DEPARTMENT

July 30, 2007

Ms. Margaret L. Hutchinson, Esq.  
Assistant United States Attorney  
Civil Division Eastern District of Pennsylvania  
615 Chestnut Street  
Suite 1250  
Philadelphia, PA 19106-4476

NOV 3 2007

Re: City of Reading Consent Decree  
Calendar Quarterly Progress Report  
2<sup>nd</sup> Quarter 2007

Dear Ms. Hutchinson:

In accordance with Section VI Reporting Requirements, Paragraph 41, you will find enclosed the City of Reading's Calendar Quarterly Report. This documents progress and status on the implementation of Section V Remedial Measures described in Paragraphs 7 through 40. Additionally, an update on penalty payment and the Angelica Stream Restoration SEP is included. Please feel free to contact me at 610-655-6258 should you have any comments or questions.

Sincerely,

Deborah A.S. Hoag, P.E.  
Utilities Division Manager

DH/eh

Cc: Christopher A. Day, Esq., US EPA  
✓ Lisa Trakis, US EPA  
Water Quality Manager, PA DEP, SC Region  
Charles M. Jones, P.E., Director of Public Works  
Ralph E. Johnson, Superintendent  
Stephen K. Hydro, P.E., Black & Veatch  
David A. Binder, Esq., Legal Counsel



**City of Reading Consent Decree  
Calendar Quarterly Progress Report  
Period Ending June 30, 2007**

**V. REMEDIAL MEASURES**

**A. General Duties**

**7. Duty to Comply with Permit** – In progress. The City's wastewater treatment plant had two NPDES permit violations during this quarter.

On April 15, 2007, the plant experienced and treated significantly higher flows which resulted in a weekly loading violation for Total Suspended Solids (TSS). The plant was in compliance for the weekly TSS concentration but the high flows yielded higher TSS loadings. This resulted in the plant management and supervisory staff conducting an investigation to determine any other contributing factors. Laboratory technicians noted some high flow days that the composite sampler appears fuller than anticipated when checking its function in the afternoon which gave the team a place to begin further investigation. Subsequent study reveals a potential problem with effluent flow metering used to flow-proportion the effluent composite sampler. The problem becomes apparent at elevated flows that are considerably less than those experienced this particular day. This investigation is ongoing.

On June 27, 2007, the City experienced a low effluent Dissolved Oxygen (DO) reading. This led to an investigation by the management and supervisory team that involved laboratory and operations staff as well. Field DO readings were obtained in multiple places for process control as well as several places near the outfall and using various methods in the field and laboratory to note the differences. This was then compared to flows, water temperature, and operational maintenance activities to determine contributing factors to the problem. The data collection and general study aspects will be completed and a report of the findings compiled for review with the PA DEP inspector.

**8. Operation and Maintenance of the Facility** – In progress. The City continues work to formalize and document the operational and maintenance procedures related to the treatment plant, pump stations, collection system, and laboratory.

**B. Interim Measures**

**9. Interim Compliance – Environmental Management System**

(a) **Submission** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on May 5, 2006. *The City awaits a response for the approval of the system and its components listed below as proposed.*

(b) **Maintenance Management System** - Continuing progress. The City continues the planned implementation of improved and expanded use of the Antero computerized maintenance management system. This ongoing increased use of the maintenance management system includes beginning recurring work orders for maintenance upon discovery of the unaddressed cause of any problem. The use of this system is treated as an ongoing tool

for the facilities' operations and maintenance. The majority of the labeling and organization has been completed with a reassessment and reevaluation for completeness ongoing.

**(c) Supervisory Control and Data Acquisition (SCADA) system**

**1. Interim SCADA System** – Completed and certified.

**2. Upgrades to SCADA System** – Not applicable. Upgrades not required based upon the submission and approval of paragraph 18. While not required by the Decree, the City continues progress with this operational tool in planning for the future plant improvements and ensuring operational consistency. Black & Veatch (B&V) has been retained to oversee the SCADA development for consistency and the development of standards and conventions for future use in the plant upgrades. Some additional operational parameters will be added to the SCADA system. Some existing screens have been and will be modified for operational and visual consistency. During this quarter, the focus was improved operation of the existing plant to ensure consistent plant operations. B&V continued work for the automation and control of the solids withdrawal pumping from the primary clarifiers and the tertiary aeration system's gravity solids withdrawal. Following the draft operating control block review, documents were prepared for electrical modifications required prior to implementation. B&V will be preparing plans, materials lists, and cost estimates for the electrical upgrades required to prepare to add these areas to the existing SCADA system. Also, different uses of the SCADA system are being investigated including use as a reference tool similar to an electronic operations and maintenance manual for non-routine conditions such as emergency power and equipment restart.

**(d) Pretreatment Data Management System** – Continuing progress.

The City continues the ongoing data entry into a commercial pretreatment database as well as an abbreviated spreadsheet upon receipt of analytical results from both City sampling and self-monitoring.

**10. Interim Plant Influent Monitoring** – Completed and continuing as required.

**11. Interim Trickling Filter Performance Measures** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on February 17, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the request to change sampling locations for trickling filter continuing monitoring. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**(a) Performance Improvements** – Completed and ongoing as part of the Operations and Maintenance plan using the Computerized Maintenance Management System.

**(b) Unit Efficiency Monitoring Recirculation Rate** – Completed.

**(c) Recirculation Rate** - Completed with flow monitoring continuing for the primary recirculation. Plant staff discovered a prior location and method for secondary trickling filter recirculation that was previously unknown as it had been buried when removed from use and not indicated on plant piping diagrams. Following investigation by plant staff,

rehabilitation of the components for this secondary stage recirculation was completed. Flow metering for operational control and monitoring has been implemented but there are physical limitations that interfere with and reduce accuracy for the flow metering. Staff will continue this investigation for possible improvements although it appears it may have been abandoned for just cause due to some noted limitations. Further data collection and evaluation has led to numerous improvements although many limitations still exist with the metering and quantification of the recirculation that is being achieved. The trickling filters are noted to have had visible improvements during this time.

**(d) Longer Term Monitoring and Reporting** – Completed and continuing with modified locations as approved.

**12. Process Control Testing** – Completed and continuing as required. Plan submitted to US DoJ, US EPA, and PA DEP on February 7, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the request to change sampling locations for treatment units' continuing monitoring. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**13. Dangerous Gas Detection** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on February 7, 2006. Inspection and calibration are being done routinely and repairs are made when noted upon inspection.

**14. Certified Plant Operators** – The City currently has five shift supervisors who are assigned as follows: day, evening, and night, operational maintenance, and administrative. The supervisors began continuous coverage on November 1, 2006 as scheduled. The operational maintenance and evening shift supervisors have the appropriate license for the facility. The night shift and administrative shift supervisors have passed the general knowledge, collection system, and fixed film components. They require additional operating experience prior to PA DEP issuance of the facility's appropriate certification. The first shift supervisor took the certification examination in March of 2007 for general knowledge, collection system, and fixed film components and passed for collection system. He took the missed components in June of 2007. He passed for the general knowledge component and had already registered to take the examination again in July in the event he was not completely successful in June. Interviews for the sixth shift supervisor position were conducted in June with a formal offer made in June as well. He is scheduled to start at the facility in early July. He brings a current PA DEP-issued license for the facility's appropriate treatment technology but not the facility size. He is certified in a neighboring state and will initially be pursuing an upgrade due to reciprocity. Shift supervisors are informed during the interview process and required by their position's description to pass the appropriate certification examination within twelve (12) months of hire or promotion into the position. With most of the shift supervisors new to the wastewater field, they are still required to obtain the requisite operating experiencing prior to being issued their certification. The treatment alternative as approved according to paragraph 18 requires a different certification component than the current treatment plant. Most of the shift supervisors are planning to take the activated sludge module



during the certification process so they are prepared for the plant's transition. The operational maintenance shift supervisor already has the required certification for the new facility. The second shift supervisor is registered to take the activated sludge component in July of 2007. *As discussed in the March 21<sup>st</sup> meeting (and the July 10<sup>th</sup> telephone conference), the new supervisory employees do not have specific wastewater experience prior to their hire but are required to pass the certification exam within twelve months of hire. PA DEP certification experience and training requirements do not allow the issuance of the operator certification based solely on the passing of the examination. Alternate language was proposed due to the difficulty recruiting already certified personnel to fill these positions and the timing required to obtain certification to provide the level of staffing required. The City suggests changing from "individual shall be required to obtain certification within 12 months of the date of hire" to "individual shall be required to pass the certification examination within 12 months of the date of hire" The City still awaits the formal response regarding the proposed alternate language.*

**15. Operations and Maintenance Plan - Completed.** Plan submitted to US DoJ, US EPA, and PA DEP on May 5, 2006. *The City awaits a response for the approval of the plan and its components listed as proposed.* Progress continues with future planned activities as discussed in the submitted plan. In the assessment of key processes, the City took action to eliminate bottlenecks and vulnerabilities to improve the performance of the existing plant. This was done as a necessary step to ensure regulatory permit compliance until the construction and start-up of the new facilities. These are the interim improvements required in the Capital Improvements Plan. The City continues to make additional improvements beyond the initial assessments as part of the continual reevaluation and optimization of plant operations. During this quarter, the digestion portion of the solids handling process was and will continue to be the prime focus.

**16. Staffing Plan – Completed.** Plan submitted to US DoJ, US EPA, and PA DEP on November 30, 2005.

**17. Interim Wet Weather Operational Strategy - Completed.** Plan submitted to US DoJ, US EPA, and PA DEP on November 7, 2006. *The City awaits a response with comments to the strategy submitted. Any comments received were to be addressed in the Wet Weather Operation Plan already submitted as required by Paragraph 29.*

### **C. Long Term Evaluation and Construction Schedule**

**18. Treatment Plant Alternatives Submission – Completed.** See below.

**(a) Existing Plant Process Evaluation Report – Completed.** Report submitted to US DoJ, US EPA, and PA DEP on February 17, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the selected liquid and solids treatment technologies. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**(b) Evaluation of Treatment Alternatives Report – Completed.** Report submitted to US DoJ, US EPA, and PA DEP on February 17, 2006 and formal presentation of the report and findings conducted at March 21<sup>st</sup>

meeting. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the selected liquid and solids treatment technologies. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**19. Capital Improvements Plan** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 16, 2007. Preliminary costs for biological treatment and solids handling facilities were developed as part of the plant and treatment alternatives report. Common facilities including headworks facilities and disinfection alternatives are being evaluated that were not required for the treatment alternative report. B&V developed a draft disinfection alternatives report for City review and comment. B&V is developing alternatives and cost estimates for wastewater routing between the 6<sup>th</sup> and Canal PS headworks and plant headworks as well as plant and pump station improvements required as a result with conservative cost estimates used for the submitted Capital Improvements Plan. Current evaluations and preliminary sizing may require minor refinement as flow projections are finalized with contributing municipalities, common facility evaluations are reviewed and approved, and construction staging and final site layout are determined.

In the assessment of key processes for the Operations and Maintenance Plan, the City took action to eliminate bottlenecks and vulnerabilities as well as to evaluate and make cost-effective interim upgrades for performance improvements to the existing plant. This was previously submitted as part of the Operations and Maintenance Plan required by Paragraph 15. The City did this earlier than required as a perceived necessary step to ensure regulatory permit compliance until the construction and start-up of the new facilities. Additionally, the City continues to make improvements beyond the initial assessments as part of the continual reevaluation and optimization of existing plant and operations. This is ongoing with current update information noted above in Paragraph 15.

**20. Request for Proposals** – In Progress. City Council was presented with and approved the option of using a request for qualifications (RFQ) to pre-qualify the engineering firms invited to respond to the Request for Proposals (RFP). This should eliminate potential conflicts of interest, significantly reduce the RFP review time, and ensure a good response from qualified firms who are able to meet the City's timeline. The final draft of the RFQ was completed and distributed for internal review prior to advertising. A comprehensive list of engineering firms to be notified about the RFQ was developed. The composition of the RFQ and RFP selection committee is being discussed internally to reach a consensus on membership. The RFQ will be advertised early in July with submissions anticipated early in August.

**21. Permit Applications and Design** – No progress.

**22. Permitting** – Not applicable.

**23. Construction Completion** – No progress.

**24. Start-Up and Operation** – No progress.

#### **D. Collection System**

**25. GIS Mapping System** - In progress. See below.

**(a) Purpose of GIS System** - Not applicable.

**(b) GIS Mapping of the Sanitary Sewer Collection System** – In progress. The 2005 aerial photography of the collection system has been accepted following quality control checks by the City GIS Coordinator. With the assistance of City sewer team personnel, ATS Chester began field data collection in July, 2006. The initial phase for field data collection is the sanitary interceptors and force mains with phase two being the remaining sanitary structures. The GIS mapping follows each phase's data collection with submission to the City for review and approval. *During this quarter, the City communicated concerns to ATS Chester regarding the lack of response to comments submitted during the previous quarter and potential impacts on Consent Decree deadlines for this and dependent tasks.* A conference call was conducted with Public works, Information Technology / GIS, ATS Chester, Black & Veatch, and Woolpert. The latter two firms are performing tasks which are dependent upon the data quality and structure. A few weeks later, the City was notified that the project manager for ATS Chester was leaving and a different person would be completing the data collection remaining. A list of Phase 1 manholes requiring location or access was received in June for the City to address in anticipation of an early July return for additional data collection. The City obtained the services of a utility line locating firm to assist in problem areas with remote rights-of-way for Phase 1 data and force mains that are desired to be included in the GIS.

**(c) GIS Mapping of the Storm Water Collection System** - In progress. The third phase for field data collection and GIS mapping is the storm water system. Many of the structures are collected while ATS Chester performs phases one and two data collection, however the GIS mapping for the sanitary system will precede the storm water system mapping. As the City had no electronic version of the storm water system, B&V developed a rough layout for use as a starting point in field data collection. With a storm water inspection that occurred as a result of the June flood, the City discovered that many storm system improvements constructed in the 1980's were not updated on the index map in use and digitized by B&V. City engineering personnel determined what improvements were not included and updated the paper mapping from which B&V updated the digitized index map for ATS Chester to use for guidance.

## **26. Sanitary Sewer System Evaluation Program**

### **(a) I/I Analysis by Subsystem**

**1. Baseline Flow and Rainfall** – In Progress. The flow monitoring and data reduction have been completed by B&V for the I&I analysis. A draft report was submitted to the City for review and comment. Limited reliable data was available for the existing system and tributary populations. Draft prioritization of areas and predictions for peak flows were developed; however, data is being refined as new information is received. The City has met with all but one of the satellite municipalities to gather

information on current and future populations, I&I mitigation programs, and definition of tributary areas. In addition, the City has progressed with its program for data collection on the City's system through GPS mapping.

**2. Hydraulic Modeling** – In Progress. The City has reviewed its system configuration and limitations for consideration in the selection of a hydraulic model. Based on the complexity of the system, B&V recommended a dynamic model named InfoWorks. The ongoing GPS field investigations are being performed in stages with priority being placed on the sanitary sewer interceptors in order to facilitate the hydraulic modeling. Upon development of a satisfactory inventory of Phase 1 GPS data, B&V will begin setting up the model and calibrating the model. *The City has concerns about the schedule for the modeling based upon the ongoing issues with the quality of data received from the GPS field verification.*

**(b) Sewer System Evaluation Survey** – In Progress. The process for the SSES was initiated with the flow monitoring program for the I&I analysis. The City has worked with B&V to develop a manhole numbering system for the sanitary sewer system. A preliminary assignment of identifiers was made to manholes indicated on available historical mapping. The GPS contractor is currently performing field investigations to define the system and resolve discrepancies found between record drawings and the actual infrastructure in the field. The City has also initiated the development of a GIS to assist in the management of data. Although not explicitly required within the Consent Decree, the City has engaged B&V to develop a maintenance, operation and management (MOM) plan for the collection system in order to help set priorities and standardize operations of City sewer crews. The MOM plan is intended to serve as a guide for the execution of the required SSES as well as ongoing future maintenance of the collection system. B&V has provided draft technical specifications for additional system evaluation to be conducted in 2007 in accordance with the I&I report.

**27. Rehabilitation Plan** – No progress.

**28. Rehabilitation of Priority Areas of Collection System** – No progress.

**29. Wet Weather Operation Plan** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on May 7, 2007. *No comments to the Interim Wet Weather Operational Strategy submitted per Paragraph 17 above that were to be addressed in this submittal.* The WWTP effluent pipe to the Schuylkill River and discharge options continue to be reviewed by an independent hydraulics engineer. Planned testing will occur during subsequent extreme high flow events and included in this plan. Standards operating procedures (SOPs) continue to be revised for use under adverse conditions. *The City awaits a response for the approval of the plan and its components listed as proposed.*

## **E. Pretreatment Program**

- 30. General Duty** – In progress. The City has an approved pretreatment program and continues to regulate industrial users in the collection system.
- 31. Enforcement Response Plan (ERP) Implementation** – In progress. The City continues to follow the ERP in order to encourage compliance from all industrial dischargers. This quarter a draft Consent Order and Agreement was written for review and execution by an industry to address SNC. This is reported quarterly to US EPA.
- 32. ERP - Penalty Escalation and Compliance Schedule** – In progress. The City has been escalating penalties for all industries that are in significant non-compliance for a given parameter for two consecutive quarters. This is reported directly with the quarterly industrial pretreatment status reports to US EPA. The City will continue with this reporting method for the future. Tracking of the penalty collection has been difficult due to a 2005 software change in the Finance department. Most problems occur during the transitional period and require coordination between Finance and IT to have an accurate report for tracking payment status. Determining and resolving the source of these errors is ongoing. The recent data appears more accurate for tracking the penalties assessed.
- 33. ERP – Order, Permit Revocation, and Federal Referral** – In progress. The City continues escalating the enforcement actions focusing on the financial penalties assessed to permittees who remain in significant non-compliance. The City continues issuing penalties for compliance issues that were not fined previously such as pH, late reports, late sampling, and late permit applications.
- 34. Local Limit Adoption by Contributing Municipalities** – In progress. The City has most of the municipal adoption completed. All the municipalities with permitted industries have adopted the ordinance. US EPA provided the status from the 2005 audit listing the municipalities requiring ordinance adoption. This has been discussed with solicitors and directly with individual municipalities in question. Electronic versions of the City's sewer use ordinance have been provided to each municipality, engineer, and/or solicitor to prepare for adoption. No feedback has been received regarding questions or recent adoption but the authorities now understand that it must be completed by the municipality. The City has requested notification and proof of ordinance adoption be submitted.
- 35. Non-Residential Connection Evaluation and Investigation** – In progress. The City has been working with the contributing municipalities to obtain information in order to send a survey to evaluate nonresidential users that may be subject to the pretreatment program. This has been requested among other submissions from individual municipalities. The initial survey to be used has been developed and will be sent out by municipality in order to stagger the resultant workload of the evaluation and inspections that will result.
- 36. Increased Monitoring for Violators** – In progress. The City continues to increase City sampling and self-monitoring for frequent violators. In general, permits may be amended or re-issued requiring multiple resamples for parameters with prior compliance issues. Some permits require increased frequency of monitoring for multiple quarters of compliance prior to returning to a less frequent self-monitoring schedule. Additional monitoring by both the City and the industry is being tracked and reported to US EPA quarterly.

**37. Pretreatment Computerized Management System** - In progress and continuing. The City continues data entry into a commercial pretreatment database as well as an abbreviated spreadsheet upon receipt of analytical results from both City and industrial sampling.

**38. Local Limits Re-Evaluation** – Completed. Evaluation submitted to US DoJ and US EPA on May 5, 2006. Comments were received from US EPA and the City has been working with B&V to address the comments and concerns. A letter will be forthcoming addressing the concerns noted.

**39. Quarterly SNC Reports to US EPA** – In progress. The City continues to provide quarterly SNC reports to US EPA.

#### **F. Funding**

**40. Funding** – In progress. The 2007 budget was adopted by City Council with \$750,000 less in the transfer from the sewer fund to the general fund. The current budgeted transfer amount is \$3,750,000. The 2008 budgeting process will be starting shortly with the transfer at \$750,000 less than 2007.

#### **IX. CIVIL PENALTY**

**47. and 49. Penalty Amount and Payment Instructions** – Completed.

#### **X. SUPPLEMENTAL ENVIRONMENTAL PROJECTS: Angelica Stream Restoration**

##### **52. Details of SEPs listed below**

- a) **Background** - Not applicable.
- b) **Goals of SEPs** - Not applicable.
- c) **Removal of excess sediment and soil stabilization SEP** – Complete. A few soil piles remain on site for final grading of approach to pedestrian bridge.
- d) **Angelica Creek Restoration SEP** – Complete. The restored stream channel has been established and has weathered several large storm events since completion.
- e) **Angelica Creek Riparian Buffer SEP** – In progress. Estimated completion is 95%. A few plantings remain to be planted in the area of the pedestrian bridge location.
- f) **Wetland Creation SEP** – In progress. Estimated completion is 90%. Final grade has been established and soil amendments were added. Remaining tasks include wetland seeding.
- g) **Flood plain Meadow SEP** – In progress. Estimated completion is 90%. Final grades have been established and the north side seeding has been established.
- h) **Annual Maintenance and Access to SEPs** – No progress. To be done after construction is complete.
- i) **Design Costs and Final Plan** – Design complete.
- j) **Defendant Certification** – Not applicable.

**k) SEP Completion Report** – No progress. The final construction permits were received during September, 2006. The project was advertised for construction bids during October, 2006. Bids were opened and a contract was awarded to E. Kuser, Inc., 150 Grings Hill Road, Sinking Spring, PA 19608, in the amount of \$1,131,161.13. Construction began on November 27, 2006. Construction is anticipated to be complete by July 31, 2007 with the exception of some plantings that may be done in the fall. Upon substantial completion of project as awarded, the City will begin this report and the corresponding certification.

## **Additional Items related to Consent Decree**

### **Personnel**

**Operator Certification** – The City administration supported management in both water and wastewater during AFSCME contract negotiations. The administration interpreted the new DEP certification regulation to compel certain rank and file AFSCME positions to obtain PA DEP operator certification. Personnel in those positions are given 24 months in which to pass the appropriate certification exams. New hires or transfers into operations are advised of the certification need initially and given materials to read and review as part of their orientation and training. During the first quarter, one rank and file employee sat for the appropriate certification examination and passed the general knowledge and collection system components. He took the fixed film component in May and passed. He has already submitted the information regarding his operating experience to PA DEP and awaits the issuance of his certification. Two additional employees took the examination in May of 2007 and passed for collection system. They registered to take the general knowledge and fixed film components in July. Based on the AFSCME contract language, July 15, 2007 is the initial date for employees who were in operational positions 24 months ago to be required to be certified. From there, new employees' certification requirements are being tracked based on the position start date. In order to avoid personnel staffing problems in multiple departments as of July 15, 2007, the City has been working with AFSCME to encourage personnel who do not intend to pursue certification to move into other positions as they are available. As of June 30, two employees remained in positions that require certification effective July 15<sup>th</sup>. They have both made plans via transfer and retirement so that certification requirements will not necessitate bumping via the AFSCME contract.

### **Operations and Maintenance**

**19<sup>th</sup> Ward PS Overflow Monitoring** –The chart recorder at this site was changed in October from a weekly chart to a daily chart per the recommendations of the hydraulic engineer studying the site. This is to enhance the ability to review pump operations during adverse conditions. Additionally, the secondary wet well level sensor that controls the pumps under high flow conditions has had a separate chart recorder added for monitoring. This was tested to determine the level where the station may be overflowing and is being used to monitor the duration of any future overflows from this station. There were two high flow events at this pump station in the second quarter to test this monitoring system during adverse conditions. The system showed no overflows occurred which was verified by operations staff performing field inspections. This monitoring evaluation will continue as field-verified levels for potential overflows are determined.

**Computerized Maintenance Management System (CMMS) for Collection System**– To adequately perform and document an ongoing infiltration and inflow program, catalog televisual inspection, and track service calls in the collection system, the City determined the need for a formal method to catalog the information. Geographical documentation of this information was the selected method for the



database structure. The initial intent was for the sanitary and storm sewer systems and the pump stations switched to this software. Following the project kickoff seminar with Woolpert and key City personnel, wastewater treatment determined it would be simpler to migrate from the existing CMMS software to the new software and have it debugged with personnel gaining experience prior to the new plant's construction. Woolpert has been on-site again this quarter to meet with and obtain information to be incorporated into the software for its implementation. The actual software and manuals were physically received this quarter and the Information Technology personnel ordering the designated server to host the software and corresponding data tables. This software is planned to be used in most of the Public Works department ultimately.

**PWEA Plant Award** – On June 4, 2007, the Reading WWTP received the PA Water Environment Association's 2007 Plant Operation and Maintenance Excellence Award for a facility greater than 2 MGD. During the presentation, the City's past permit violations and current status were discussed with a summary of key recent improvements.

### **Laboratory and Administration**

**Land and Building** – The City purchased a parcel of land in 2005 adjacent to the wastewater treatment plant to be used for the construction of a new building for the administration and the laboratory. The City purchased an adjacent parcel in March, 2007. The site will be studied with a needs assessment and physical survey being completed following the request for proposal for these services to layout the site and buildings and prepare for land development submission to the township's planning commission. These Requests for Proposals are being finalized. Land development and building design will be following as this will be expedited to provide flexibility during the actual plant construction.

**Independent Laboratory Audit** – With the recent increase in regulation for environmental laboratories that are regulated by PA DEP, the City has opted to have an independent laboratory audit conducted. The goal is to discover and correct any deficiencies prior to the field audit by PA DEP lab accreditation personnel. Four complex accredited parameters (TSS, CBOD<sub>5</sub>, NH<sub>3</sub>-N, and FC) conducted by the City's laboratory are subject to PA DEP audit and four parameters (pH, TRC, DO, and Color) are accredited by rule. To date, the quality manual has been reviewed as well as all but one of the complex parameters. The City contacted PA DEP to obtain an estimated date of the on-site audit in order to ensure the timely completion and documentation update from the independent audit results.

### **Administrative**

**Contributing Municipalities** - During December, the City and B&V met individually with eleven of the twelve municipalities that contribute flows to the City's wastewater system and plant. The purpose was to provide background information and the City's current status including technical information related to the Consent Decree requirements. Also, the City wanted to obtain current status of flow projections and I&I reduction efforts. Some municipalities and authorities had

their own staff or officials in addition to the appropriate engineers. During the first quarter, the City received information as requested from the municipalities. This review of data is continuing to plan for the future facilities capacity. The final municipal meeting, which involves an authority as well, had not been finalized due to major personnel changes with the staff. This will be scheduled to occur in the third quarter. Intermunicipal agreements are being reviewed briefly as they are a shorter duration than what is used for planning purposes.

**Technical and Engineering** – City Council approved a resolution for the administration to initiate purchasing requirements for engineering, technical, and capital Consent Decree-related qualifications, proposals, bids, and quotes. At the same time, they authorized an additional seven integral elements be added to the scope of work by B&V. Some of these elements are not specifically required by the Consent Decree but need to be included in the project as a whole due to the inter-related nature of the design and operations. The contract amendment has been executed by both parties this quarter.

**Funding** - Since the internal City customers' sewer bills are dependent upon the metered water consumption, City Council discussed an independent utility analysis of both the wastewater and water utility funds and inter-related financial operations due to the significant implications. A separate committee was formed to interface, develop a scope for the study, and select a consultant to perform this audit and analysis which will provide the City with the best long-term financial solution and ability to evaluate budgetary impacts.

**Response Times and Clarifications** – The City continues to work in good faith on compliance issues outlined within the consent decree. There is concern regarding delays in regulatory responses for questions posed during meetings or within progress reports. The City has not received responses to questions posed during the March 2006 meeting or the July 2006 teleconference or plans and reports submitted subsequent to that meeting. As investigative field work in the collection system intensifies, previously identified concerns regarding timeline discrepancies within the Consent Decree become more evident. Clarification will be critical to allow the City to balance the allocation of resources in efforts to maintain compliance. The City would like the opportunity to propose schedule revisions.

**NPDES Permit Limits** – The NPDES permit renewal has not been received despite the permit expiration on May 1, 2006. Draft limits by one MGD increments have been provided for design purposes but a draft permit has not been received to date. During the discussion following the application, the reduction of permit limits by PA DEP seemed to be a forgone conclusion despite having a Consent Decree report stating the existing plant is unable to meet the limits consistently. The City would propose the concept of an extension of existing permit limits or interim limits during the construction phase until the new facilities are on-line.

**Air Quality Permit Receipt** - During the second quarter of 2007, the City unexpectedly received an air quality permit from PADEP. Since 2003, the City has been in communication with the PADEP to discuss discrepancies within proposed air quality permits for the wastewater treatment plant. In November of 2005, the City met with the PADEP to identify concerns. As a result, PADEP requested additional information, which the City then provided. At the meeting, a final permit was

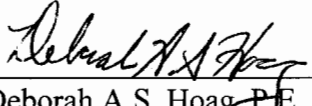
mentioned as prepared but not yet issued. The on-site inspector referred several times to this unissued permit since November 2005 and provided a copy which was dated prior to the meeting to discuss permitting concerns and discrepancies. Despite the fact that the concerns discussed in the meeting were not addressed by the PADEP, the next written communication received was the issuance of the proposed permit in June 2007. In accordance with the formal process, the City has submitted an appeal to the Environmental Hearing Board to contest the permit issuance. Since 2003, the City has been working, in conjunction with the compliance efforts associated with the Consent Decree, to address the operations and maintenance elements included in the air quality plan approval. The City has made efforts to promote communication regarding the overall elements being addressed with the facility upgrades, including air quality and odor control systems. Despite these efforts, the PADEP has suggested that an additional consent order may be issued for air quality even though final elements of any proposed permits have not been mutually defined and communicated. As a result, the City felt the ongoing issues should be presented as an additional item associated with the Consent Decree.

## **VI. REPORTING REQUIREMENTS**

### **41. Report Contents and Certification**

- (a) Remedial Measures Paragraphs 7 through 40** – See above numbered sections.
- (b) Anticipated Problems** – See italics in above numbered sections.
- (c) Additional Matters** – See italics in above unnumbered sections.
- (d) Certification Statement** –

I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my directions and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, the information submitted, is to the best of my knowledge and belief, true, accurate, and complete.

  
\_\_\_\_\_  
Deborah A.S. Hoag, P.E.  
Utilities Division Manager

07/30/2007  
Date



## CITY OF READING, PENNSYLVANIA

ENVIRONMENTAL DIVISION  
815 WASHINGTON STREET  
READING, PA 19601-3690

PUBLIC WORKS  
DEPARTMENT

October 30, 2007

NOV 2 2007

Ms. Margaret L. Hutchinson, Esq.  
Assistant United States Attorney  
Civil Division Eastern District of Pennsylvania  
615 Chestnut Street  
Suite 1250  
Philadelphia, PA 19106-4476

Re: City of Reading Consent Decree  
Calendar Quarterly Progress Report  
3<sup>rd</sup> Quarter 2007

Dear Ms. Hutchinson:

In accordance with Section VI Reporting Requirements, Paragraph 41, you will find enclosed the City of Reading's Calendar Quarterly Report. This documents progress and status on the implementation of Section V Remedial Measures described in Paragraphs 7 through 40. Additionally, an update on penalty payment and the Angelica Stream Restoration SEP is included. Please feel free to contact me at 610-655-6258 should you have any comments or questions.

Sincerely,

Deborah A.S. Hoag, P.E.  
Utilities Division Manager

DH/eh

Cc: Christopher A. Day, Esq., US EPA  
✓ Lisa Trakis, US EPA  
Water Quality Manager, PA DEP, SC Region  
Charles M. Jones, P.E., Director of Public Works  
Ralph E. Johnson, Superintendent  
Stephen K. Hydro, P.E., Black & Veatch  
David A. Binder, Esq., Legal Counsel

file



**City of Reading Consent Decree  
Calendar Quarterly Progress Report  
Period Ending September 30, 2007**

NOV 2 2007

**V. REMEDIAL MEASURES**

**A. General Duties**

**7. Duty to Comply with Permit** – In progress. The City's wastewater treatment plant had no NPDES permit violations during this quarter.

**8. Operation and Maintenance of the Facility** – In progress. The City continues work to formalize and document the operational and maintenance procedures related to the treatment plant, pump stations, collection system, and laboratory.

**B. Interim Measures**

**9. Interim Compliance – Environmental Management System**

**(a) Submission** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on May 5, 2006. *The City awaits a response for the approval of ✓ the system and its components listed below as proposed.*

**(b) Maintenance Management System** - Continuing progress. The City continues the planned implementation of improved and expanded use of the Antero computerized maintenance management system. This ongoing increased use of the maintenance management system includes beginning recurring work orders for maintenance upon discovery of the unaddressed cause of any problem. The use of this system is treated as an ongoing tool for the facilities' operations and maintenance.

**(c) Supervisory Control and Data Acquisition (SCADA) system**

**1. Interim SCADA System** – Completed and certified.

**2. Upgrades to SCADA System** – Not applicable. Upgrades not required based upon the submission and approval of paragraph 18. While not required by the Decree, the City continues progress with this operational tool in planning for the future plant improvements and ensuring operational consistency. Black & Veatch (B&V) has been retained to oversee the SCADA development for consistency and the development of standards and conventions for future use in the plant upgrades. Some additional operational parameters will be added to the SCADA system. Some existing screens have been and will be modified for operational and visual consistency. During this quarter, the focus was improved operation of the existing plant to ensure consistent plant operations. A fifth pump was added to the tertiary pump station in order to improve operational reliability during high flow conditions. This was added to the monitoring and control system and programmed into the sequence of operation. Improvements were made to the historical data storage and archiving functions of the SCADA system to facilitate reporting and trend analysis. In addition, B&V prepared plans, materials lists, and cost estimates for the electrical upgrades required to automate

and monitor the sludge withdrawal from the primary clarifiers. The City provided documents to contractors and received bids for completing the work in preparation to being added to the SCADA system. B&V developed, implemented, and tested monitoring and control screens for the operation of the Sixth and Canal and 18<sup>th</sup> Ward pump station to be visually consistent with the existing internal pump stations screens. As a result, operations staff at the WWTP has improved capabilities for operation of these stations as well as a standardized appearance for pump station screens. Additional uses of the SCADA system are being investigated including use as a reference tool similar to an electronic operations and maintenance manual for non-routine conditions such as emergency power and equipment restart.

**(d) Pretreatment Data Management System** – Continuing progress.

The City continues the ongoing data entry into a commercial pretreatment database as well as an abbreviated spreadsheet upon receipt of analytical results from both City sampling and self-monitoring.

**10. Interim Plant Influent Monitoring** – Completed and continuing as required.

**11. Interim Trickling Filter Performance Measures** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on February 17, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the request to change sampling locations for trickling filter continuing monitoring. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**(a) Performance Improvements** – Completed and ongoing as part of the Operations and Maintenance plan using the Computerized Maintenance Management System.

**(b) Unit Efficiency Monitoring Recirculation Rate** – Completed.

**(c) Recirculation Rate** - Completed with flow monitoring continuing for the primary recirculation. During this quarter, problems were discovered upon the evaluation of the June flow data. The chart recorder continues to monitor the primary recirculation flow but the totalizer ceased to function so that the total flow and percent compared to influent is unable to be calculated. An instrumentation contractor who maintains the plant flow meters has investigated the problem and ordered the parts required to restore normal function. The secondary recirculation location discovered has been in use and the staff continues to investigate for possible flow metering methods to achieve accuracy. The metering location appears it may have been abandoned for just cause due to some noted physical limitations. The secondary trickling filters are noted to have had visible improvements during this time.

**(d) Longer Term Monitoring and Reporting** – Completed and continuing with modified locations as approved.

**12. Process Control Testing** – Completed and continuing as required. Plan submitted to US DoJ, US EPA, and PA DEP on February 7, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the request to change sampling locations for treatment units' continuing

monitoring. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**13. Dangerous Gas Detection** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on February 7, 2006. Inspection and calibration are being done routinely and repairs are made when noted upon inspection.

**14. Certified Plant Operators** – The City currently has five shift supervisors who are assigned as follows: day, evening, and night, operational maintenance, and administrative. The supervisors began continuous coverage on November 1, 2006 as scheduled. During this reporting quarter, a rotating shift supervisor both began employment and was terminated. The open position was posted internally with an existing operator who recently passed the certification exam having been selected. He will begin this position upon filling of his current position which will be through an outside hire. To ease the tracking of licensed employees for the facility, a table has been developed for the facility's shift supervisors, and related City management staff by position. The facility currently requires a PA DEP Class A-2 for the plant and an E-4 for the collection system. These standards have been applied for the plant personnel required to obtain certification as they are also responsible for the pump station in the collection system. Shift supervisors are informed during the interview process and required by their position's description to pass the appropriate certification examination within twelve (12) months of hire or promotion into the position. With most of the shift supervisors new to the wastewater field, they are still required to obtain the requisite operating experiencing prior to being issued their certification.

Employee	Title	PA DEP Certification
Charles M. Jones, P. E.	Director of Public Works	A,E – 1,2,3,4
Deborah A. S. Hoag, P. E.	Utilities Division Manager	A,E – 1,2,3,4
Ralph E. Johnson	Wastewater Superintendent	A,E – 1,2,3,4
Roger D. Hillibush	Operations Supervisor	A,E – 1,2,3,4
Russell L. Stoudt	Maintenance Supervisor	A,E – 1,2,3,4
Jackie C. Hendricks	Environmental Program Coordinator	A,E – 2,3,4
Amy L. Morriss	Laboratory Supervisor	B,E – 1,2,3,4
Gregory R. Fetter	Shift Supervisor – Operational Maintenance	A,E – 1,2,3,4
Robert E. Gensemer	Shift Supervisor - Administrative	E - 4 Passed exam A - 2
George E. Fultz, II	Shift Supervisor - Day	Passed exam. A,E - 2,4
Felix V. Stacherski	Shift Supervisor - Evening	A,E – 2,4
Jeffrey Hunt	Shift Supervisor - Night	E - 4 Passed exam A - 2
Position Currently Open	Shift Supervisor - Rotating	Not Applicable

The treatment alternative as approved according to paragraph 18 requires a different certification component than the current treatment plant for an A-1 for the plant. Most of the managers already possess this certification and some of the shift supervisors are planning to take the activated sludge module in advance of the construction to be prepared for the plant's transition. Additionally, the City has been discussing flexibility with the certification wording with the AFSCME local representing first level supervisors so that changes in technology or

certification requirements do not require additional contract negotiations. *As discussed in the March 21<sup>st</sup> meeting (and the July 10<sup>th</sup> telephone conference), the new supervisory employees do not have specific wastewater experience prior to their hire but are required to pass the certification exam within twelve months of hire. PA DEP certification experience and training requirements do not allow the issuance of the operator certification based solely on the passing of the examination. Alternate language was proposed due to the difficulty recruiting already certified personnel to fill these positions and the timing required to obtain certification to provide the level of staffing required. The City suggests changing from "individual shall be required to obtain certification within 12 months of the date of hire" to "individual shall be required to pass the certification examination within 12 months of the date of hire" The City still awaits the formal response regarding the proposed alternate language.*

**15. Operations and Maintenance Plan** - Completed. Plan submitted to US DoJ, US EPA, and PA DEP on May 5, 2006. *The City awaits a response for the approval of the plan and its components listed as proposed.* Progress continues with future planned activities as discussed in the submitted plan. In the assessment of key processes, the City took action to eliminate bottlenecks and vulnerabilities to improve the performance of the existing plant. This was done as a necessary step to ensure regulatory permit compliance until the construction and start-up of the new facilities. These are the interim improvements required in the Capital Improvements Plan. The City continues to make additional improvements beyond the initial assessments as part of the continual reevaluation and optimization of plant operations. During this quarter, the digestion portion of the solids handling process was and will continue to be a prime focus until interim repairs are completed. Also, the tertiary aeration system and effluent dissolved oxygen have been a focus this quarter.

**16. Staffing Plan** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on November 30, 2005.

**17. Interim Wet Weather Operational Strategy** - Completed. Plan submitted to US DoJ, US EPA, and PA DEP on November 7, 2006. *The City awaits a response with comments to the strategy submitted. Any comments received were to be addressed in the Wet Weather Operation Plan already submitted as required by Paragraph 29.*

### **C. Long Term Evaluation and Construction Schedule**

**18. Treatment Plant Alternatives Submission** – Completed. See below.

**(a) Existing Plant Process Evaluation Report** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 17, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the selected liquid and solids treatment technologies. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**(b) Evaluation of Treatment Alternatives Report** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 17, 2006 and formal presentation of the report and findings conducted at March 21<sup>st</sup>



meeting. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the selected liquid and solids treatment technologies. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**19. Capital Improvements Plan** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 16, 2007. Preliminary costs for biological treatment and solids handling facilities were developed as part of the plant and treatment alternatives report. Common facilities including headworks facilities and disinfection alternatives are being evaluated that were not required for the treatment alternative report. B&V developed a draft disinfection alternatives report which the City reviewed for final comments to be evaluated and incorporated by B&V. B&V is developing alternatives and cost estimates for wastewater routing between the 6<sup>th</sup> and Canal PS headworks and plant headworks as well as plant and pump station improvements required as a result with conservative cost estimates used for the submitted Capital Improvements Plan. Current evaluations and preliminary sizing may require minor refinement as flow projections are finalized with contributing municipalities, common facility evaluations are reviewed and approved, and construction staging and final site layout are determined. Some of these will occur upon selection of the WWTP design engineering team.

In the assessment of key processes for the Operations and Maintenance Plan, the City took action to eliminate bottlenecks and vulnerabilities as well as to evaluate and make cost-effective interim upgrades for performance improvements to the existing plant. This was previously submitted as part of the Operations and Maintenance Plan required by Paragraph 15. The City did this earlier than required as a perceived necessary step to ensure regulatory permit compliance until the construction and start-up of the new facilities. Additionally, the City continues to make improvements beyond the initial assessments as part of the continual reevaluation and optimization of existing plant and operations. This is ongoing with current update information noted above in Paragraph 15.

**20. Request for Proposals** – In Progress. On July 17, 2007, the City issued a request for qualifications (RFQ) for the implementation of the selected treatment alternative. In August, the City received qualification statements from a total of nine potential design teams. The City assembled a committee comprised of both internal and external reviewers to review qualifications, score and rank firms, and develop a short list of firms. In order to broaden the perspective of the selection of firms, the City expanded the committee to include various departments within the City as well as representatives from other communities within Pennsylvania. On September 25, 2007, the City issued a letter notifying firms of the selected short-list that will be offered the opportunity to submit a proposal for the project. The City has been using feedback from committee members to develop and finalize the request for proposals (RFP) to be distributed to the selected four design teams. During the fourth quarter, the City will issue a request for proposals from the selected firms.

**21. Permit Applications and Design** – No progress.

**22. Permitting** – Not applicable.

- 23. **Construction Completion** – No progress.
- 24. **Start-Up and Operation** – No progress.

#### **D. Collection System**

- 25. **GIS Mapping System** - In progress. See below.

- (a) **Purpose of GIS System** - Not applicable.

- (b) **GIS Mapping of the Sanitary Sewer Collection System** – In progress. The 2005 aerial photography of the collection system has been accepted following quality control checks by the City GIS Coordinator. With the assistance of City sewer team personnel, ATS Chester began field data collection in July, 2006. The initial phase for field data collection is the sanitary interceptors and force mains with phase two being the remaining sanitary structures. The GIS mapping follows each phase's data collection with submission to the City for review and approval. The City conducted meetings with ATS Chester staff to find ways to expedite the process. The City has dedicated staff to support investigation efforts as needs are communicated by ATS Chester. In addition, the City has been working with Master Locators Inc to help identify sewer interceptors and redundant force main locations as well as a neighboring municipality's force main that traverses WWTP grounds. During this quarter, ATS Chester made additional staffing changes to lead staff for the project. The City's GIS technician has been dedicated to performing data reviews and monitoring the quality of data submitted. As further support, the City had requested that B&V provide additional review of data in order to determine if reliable information is available to execute the hydraulic model of the large diameter sanitary sewers. As of the end of the 3<sup>rd</sup> quarter of 2007, acceptable GPS data had not yet been received. The City continues to move forward with B&V and Woolpert in order to continue with the required modeling and software implementation as much as practical given the status of the data collection. Concerns remain regarding Consent Decree deadlines and these concerns have been continually stressed to all parties involved. The City continues to make every effort to move forward practically and efficiently as possible. *During this quarter, the City communicated concerns to ATS Chester regarding the lack of response to comments submitted during the previous quarters and potential impacts on Consent Decree deadlines for this and dependent tasks.*

- (c) **GIS Mapping of the Storm Water Collection System** - In progress. The third phase for field data collection and GIS mapping is the storm water system. Many of the structures are collected while ATS Chester performs phases one and two data collection, however the GIS mapping for the sanitary system will precede the storm water system mapping. As the City had no electronic version of the storm water system, B&V developed a rough layout for use as a starting point in field data collection. With a storm water inspection that occurred as a result of the June 2006 flood, the City discovered that many storm system improvements

constructed in the 1980's were not updated on the index map in use and digitized by B&V. City engineering personnel determined what improvements were not included and updated the paper mapping from which B&V updated the digitized index map for ATS Chester to use for guidance.

## **26. Sanitary Sewer System Evaluation Program**

### **(a) I/I Analysis by Subsystem**

**1. Baseline Flow and Rainfall – In Progress.** The flow monitoring and data reduction have been completed by B&V for the I&I analysis. A draft report was submitted to the City for review and comment. Limited reliable data was available for the existing system and tributary populations. Draft prioritization of areas and predictions for peak flows were developed; however, data is being refined as new information is received. The hydraulic modeling of the interceptors is a key to re-evaluating priorities based on projected bottlenecks that may exist. The City has met with all of the satellite municipalities to gather information on current and future populations, I&I mitigation programs, and definition of tributary areas. In addition, the City has progressed with its program for data collection on the City's system through GPS mapping.

**2. Hydraulic Modeling – In Progress.** The City has reviewed its system configuration and limitations for consideration in the selection of a hydraulic model. Based on the complexity of the system, B&V recommended a dynamic model named InfoWorks. The ongoing GPS field investigations are being performed in stages with priority being placed on the sanitary sewer interceptors in order to facilitate the hydraulic modeling. Upon development of a satisfactory inventory of Phase 1 GPS data, B&V will begin setting up the model and calibrating the model. Despite the status of the inventory data, modeling efforts have been initiated. These efforts include selection of the type of model, definition of data requirements, review of available base flow data, and review of potential design storms and rainfall distribution. *The City has concerns about the schedule for completing the modeling based upon the ongoing issues with the quality of data received from the GPS field verification.*

**(b) Sewer System Evaluation Survey – In Progress.** The process for the SSES was initiated with the flow monitoring program for the I&I analysis. The City has worked with B&V to develop a manhole numbering system for the sanitary sewer system. A preliminary assignment of identifiers was made to manholes indicated on available historical mapping. The GPS contractor is currently performing field investigations which will be used to refine the system numbering and subsystem delineation and resolve discrepancies found between record drawings and the actual infrastructure in the field. Although not explicitly required within the Consent Decree,

the City has engaged B&V to develop a maintenance, operation and management (MOM) plan for the collection system in order to help set priorities and standardize operations of City sewer crews. The MOM plan is intended to serve as a guide for the execution of the required SSES as well as ongoing future maintenance of the collection system. B&V has provided draft technical specifications for additional system evaluation to be conducted in accordance with the I&I report.

**27. Rehabilitation Plan** – No progress.

**28. Rehabilitation of Priority Areas of Collection System** – No progress.

**29. Wet Weather Operation Plan** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on May 7, 2007. *No comments to the Interim Wet Weather Operational Strategy submitted per Paragraph 17 above that were to be addressed in this submittal. The City awaits a response for the approval of the plan and its components listed as proposed.* The WWTP effluent pipe to the Schuylkill River and discharge options continue to be reviewed by an independent hydraulics engineer. A draft report was received for review. Planned testing will occur during subsequent extreme high flow events and be included in this plan. Standards operating procedures (SOPs) will be revised for use under adverse conditions. ✓

#### **E. Pretreatment Program**

**30. General Duty** – In progress. The City has an approved pretreatment program and continues to regulate industrial users in the collection system.

**31. Enforcement Response Plan (ERP) Implementation** – In progress. The City continues to follow the ERP in order to encourage compliance from all industrial dischargers. This is reported directly to US EPA with the quarterly compliance reports.

**32. ERP - Penalty Escalation and Compliance Schedule** – In progress. The City has been escalating penalties for all industries that are in significant non-compliance for a given parameter for two consecutive quarters. This is reported directly with the quarterly industrial pretreatment status reports to US EPA. The City will continue with this reporting method for the future. Tracking of the penalty collection has been difficult due to a 2005 software change in the Finance department. Most problems occur during the transitional period and require coordination between Finance and IT to have an accurate report for tracking payment status. Determining and resolving the source of these errors has been problematic due to the methods employed during the transition. The recent data for tracking the penalties assessed is more accurate.

**33. ERP – Order, Permit Revocation, and Federal Referral** – In progress. The City continues escalating the enforcement actions focusing on the financial penalties assessed to permittees who remain in significant non-compliance. The City continues issuing penalties for compliance issues that were not fined previously such as pH, late reports, late sampling, and late permit applications.

**34. Local Limit Adoption by Contributing Municipalities** – In progress. Most of the municipalities have adopted the City's sewer use ordinance providing permitting and enforcement abilities for the City with industrial users. All the

municipalities with permitted industries have adopted the ordinance. US EPA provided the status from the 2005 audit listing the municipalities requiring ordinance adoption. This has been discussed with solicitors and directly with individual municipalities in question. Electronic versions of the City's sewer use ordinance have been provided to each municipality, engineer, and/or solicitor to prepare for adoption. No feedback has been received regarding questions or recent adoption but the authorities now understand that it must be completed by the municipality. The City has requested notification and proof of ordinance adoption be submitted.

**35. Non-Residential Connection Evaluation and Investigation** – In progress. The City has been working with the contributing municipalities to obtain information in order to send a survey to evaluate nonresidential users that may be subject to the pretreatment program. This has been requested among other submissions from individual municipalities. This was also discussed with the municipal meetings conducted in 2007. These one-on-one meetings seemed to be the best format to emphasize the importance of this data as well as providing an opportunity for municipalities to ask questions regarding clarification of non-residential users. Information received near the end of this quarter from the contributing municipalities for 2006 data was the first time this was received from many municipalities. The initial survey to be used has been developed and will be sent out by municipality in order to stagger the resultant workload of the evaluation and inspections that will result.

**36. Increased Monitoring for Violators** – In progress. The City continues to increase City sampling and self-monitoring for frequent violators. In general, permits may be amended or re-issued requiring multiple resamples for parameters with prior compliance issues. Some permits require increased frequency of monitoring for multiple quarters of compliance prior to returning to a less frequent self-monitoring schedule. Additional monitoring by both the City and the industry is being tracked and reported to US EPA quarterly.

**37. Pretreatment Computerized Management System** - In progress and continuing. The City continues data entry into a commercial pretreatment database as well as an abbreviated spreadsheet upon receipt of analytical results from both City and industrial sampling.

**38. Local Limits Re-Evaluation** – Completed. Evaluation submitted to US DoJ and US EPA on May 5, 2006. Comments were received from US EPA and the City has been working with B&V to address the comments and concerns. A letter will be forthcoming addressing the concerns noted.

**39. Quarterly SNC Reports to US EPA** – In progress. The City continues to provide quarterly SNC reports to US EPA.

## **F. Funding**

**40. Funding** – In progress. The 2008 budget was prepared to be presented to City Council with \$750,000 less in the transfer from the sewer fund to the general fund than in 2007. For 2007, the budgeted transfer amount is \$3,750,000 with the 2008 budgeted transfer amount being \$3,000,000.

## **IX. CIVIL PENALTY**

**47. and 49. Penalty Amount and Payment Instructions – Completed.**

## **X. SUPPLEMENTAL ENVIRONMENTAL PROJECTS: Angelica Stream Restoration**

### **52. Details of SEPs listed below**

- a) Background - Not applicable.**
- b) Goals of SEPs - Not applicable.**
- c) Removal of excess sediment and soil stabilization SEP – Complete.**  
A few soil piles remain on site for final grading of approach to pedestrian bridge. Bridge installation scheduled for November, 2007.
- d) Angelica Creek Restoration SEP – Complete.**
- e) Angelica Creek Riparian Buffer SEP – Complete.**
- f) Wetland Creation SEP –Complete**
- g) Flood plain Meadow SEP – Complete.**
- h) Annual Maintenance and Access to SEPs – No progress. To be done after construction is complete.**
- i) Design Costs and Final Plan – Complete.**
- j) Defendant Certification – Not applicable.**
- k) SEP Completion Report – No progress.** The final construction permits were received during September, 2006. The project was advertised for construction bids during October, 2006. Bids were opened and a contract was awarded to E. Kuser, Inc., 150 Grings Hill Road, Sinking Spring, PA 19608, in the amount of \$1,131,161.13. Construction began on November 27, 2006. The only outstanding items are the pedestrian bridge, benches, and signage. Upon completion of the project as awarded, the City will begin the SEP Completion Report and the corresponding certification.

## Additional Items related to Consent Decree

### Personnel

**Operator Certification** – The City administration supported management in both water and wastewater during AFSCME contract negotiations. The administration interpreted the new DEP certification regulation to compel certain rank and file AFSCME positions to obtain PA DEP operator certification. Personnel in those positions are given 24 months in which to pass the appropriate certification exams. New hires or transfers into operations are advised of the certification need initially and given materials to read and review as part of their orientation and training. Based on the AFSCME contract language, July 15, 2007 was the initial date for employees who were in operational positions 24 months ago to be required to be certified. From there, new employees' certification requirements are being tracked based on the position start date. In order to avoid personnel staffing problems in multiple departments as of July 15, 2007, the City worked with AFSCME to encourage personnel who do not intend to pursue certification to move into other positions as they are available. Two employees remained in positions that require certification effective July 15<sup>th</sup> and they both made plans via transfer and retirement so that certification requirements did not necessitate bumping via the AFSCME contract. Additionally, there was another transfer from a position requiring certification prior to the employee's due date. The positions requiring certification are Fritz Island Operator (Plant Operator), Pump Tender, and Belt Filter Press Operator (Solids Operator). The first two positions have four people each to provide continual coverage while the last position currently has two people providing two shifts weekdays and weekend coverage as needed. The following table shows the certification status of the rank and file employees in the positions requiring certification.

Position	PA DEP Certification
Plant Operator - Day	A,E – 2,3,4
Plant Operator - Evening	A,E - 2,3,4
Plant Operator - Night	Passed exam E-4. Due by 04/03/08
Plant Operator - Rotating	Passed exam. A,E - 2,4
Pump Tender – Day	Transferred from Position
Pump Tender – Day	Due by 06/18/09
Pump Tender - Evening	Open - Transfer Date Pending
Pump Tender – Night	Retired
Pump Tender - Night	Due by 09/04/09
Pump Tender – Rotating	Transferred from Position
Pump Tender – Rotating	Due by 07/16/09
Solids Operator - Day	A,E – 2,4
Solids Operator - Evening	Due by 10/19/08

## **Operations and Maintenance**

**19<sup>th</sup> Ward PS Overflow Monitoring** –The chart recorder is a daily chart per the recommendations of the hydraulic engineer studying the site. This is to enhance the ability to review pump operations during adverse conditions. Additionally, the secondary wet well level sensor that controls the pumps under high flow conditions has a separate chart recorder added for monitoring. This is being used to monitor the duration of any future overflows from this station. The system showed no overflows occurred during the third quarter which was verified by operations staff performing routine inspections. This monitoring evaluation will continue as field-verified levels for potential overflows are determined.

**Computerized Maintenance Management System (CMMS) for Collection System**– To adequately perform and document an ongoing infiltration and inflow program, catalog televisual inspection, and track service calls and repairs in the collection system, the City determined the need for a formal method to catalog the information. Geographical documentation of this information was the selected method for the database structure. The original intent was for the sanitary and storm sewer systems and the pump stations to switch to this software as fewer major changes are anticipated in the near future. Following the project kickoff, wastewater treatment determined it would be simpler to migrate from the existing CMMS software to the new software and have it debugged with personnel gaining experience prior to the new plant's construction. This quarter, the City met with Woolpert and provided them with the existing CMMS database to determine how the data migration can be accomplished as well as defining structure and set up within the CMMS. Woolpert has been working to incorporate the existing personnel structure and types of service requests and work orders for wastewater treatment, sanitary sewers, and storm sewers. Additionally, recurring safety and administrative functions are planned to be incorporated into the CMMS. This software is planned to be used in most of the Public Works department ultimately.

## **Laboratory and Administration**

**Land and Building** – The City purchased a parcel of land in 2005 adjacent to the wastewater treatment plant to be used for the construction of a new building for the administration and the laboratory. The City purchased an adjacent parcel in March, 2007. On August 8, 2007, the City issued requests for proposals (RFPs) to perform a feasibility study and property survey for the proposed building needs, layout, and site. Proposals have been received and were reviewed. Successful firms will be selected and notified in October with the intent to expedite the project to provide additional flexibility during the actual plant construction. The City intends to have the land development plans submitted to the township for review early in 2008.

**Independent Laboratory Audit** – With the recent increase in regulation for environmental laboratories that are regulated by PA DEP, the City has opted to have an independent laboratory audit conducted. The goal is to discover and correct any deficiencies prior to the field audit by PA DEP lab accreditation personnel. Four complex accredited parameters (TSS, CBOD<sub>5</sub>, NH<sub>3</sub>-N, and FC) conducted by the City's laboratory are subject to PA DEP audit and four parameters (pH, TRC, DO,



and Color) are accredited by rule. To date, the quality manual has been reviewed as well as all but one of the complex parameters. The City contacted PA DEP to obtain an estimated date of the on-site audit in order to ensure the timely completion and documentation update from the independent audit results. The City has learned the scheduled PA DEP audit date is in November, 2007.

### **Administrative**

**Contributing Municipalities** - The City and B&V met individually with the twelve municipalities that contribute flows to the City's wastewater system and plant. The purpose was to provide background information and the City's current status including technical information related to the Consent Decree requirements. Also, the City wanted to obtain current status of flow projections and I&I reduction efforts. Some municipalities and authorities had their own staff or officials in addition to the appropriate engineers. In addition to the Consent Decree requirements for plant upgrades and system projects, the need for municipal adoption of the City's sewer use ordinance was discussed as well as the need for ongoing communication regarding non-residential customers both being related to the industrial pretreatment program. Finally, the process to be followed when planning for new development and the use of PA DEP planning modules were discussed as well. Intermunicipal agreements are being reviewed briefly as they are a shorter duration than what is used for planning purposes for the capital improvements plan.

**Funding** - Since the internal City customers' sewer bills are dependent upon the metered water consumption, City Council discussed an independent utility analysis of both the wastewater and water utility funds and inter-related financial operations due to the significant implications. A separate committee was formed to interface, develop a scope for the study, and select a consultant to perform this audit and analysis which will provide the City with the best long-term financial solution and ability to evaluate budgetary impacts.

**Response Times and Clarifications** - The City continues to work in good faith on compliance issues outlined within the Consent Decree. There is concern regarding delays in regulatory responses for questions posed during meetings or within progress reports. The City has not received responses to questions posed during the March 2006 meeting or the July 2006 teleconference or plans and reports submitted subsequent to that meeting. As investigative field work in the collection system intensifies, previously identified concerns regarding timeline discrepancies within the Consent Decree become more evident. Clarification will be critical to allow the City to balance the allocation of resources in efforts to maintain compliance. The City would like the opportunity to meet and discuss proposed schedule revisions.

**NPDES Permit Limits** - The NPDES permit renewal has not been received despite the permit expiration on May 1, 2006. Draft limits by one MGD increments have been provided for design purposes but a draft permit has not been received to date. During the discussion following the application, the reduction of permit limits by PA DEP seemed to be a forgone conclusion despite having a Consent Decree report stating the existing plant is unable to meet the limits consistently. The City would propose the concept of an extension of existing permit limits or interim limits during the construction phase until the new facilities are on-line.

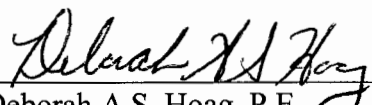
**Air Quality Permit Receipt** – During June, the City received an air quality permit from PA DEP containing essentially the same areas of concern that had been discussed in a November 2005 meeting. At that meeting PA DEP had suggested they would pursue a consent Order related to air quality to which the City explained that the Consent Decree addressed the WWTP as a whole and air quality and odor controls would be designed as integral components of the facility. The City provided the additional data requested by PA DEP. In addition, the City has made several process improvements in the form of automation but has not heard from PA DEP regarding some major concerns from the November 2005 meeting until the receipt of this permit. The City formally appealed the permit issuance and contents to the Environmental Hearing Board as is the process dictated in these circumstances. A meeting with PA DEP is scheduled in October in order to discuss the appeal and pending air quality permit.

## **VI. REPORTING REQUIREMENTS**

### **41. Report Contents and Certification**

- (a) **Remedial Measures Paragraphs 7 through 40** – See above numbered sections.
- (b) **Anticipated Problems** – See italics in above numbered sections.
- (c) **Additional Matters** – See italics in above unnumbered sections.
- (d) **Certification Statement** –

I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my directions and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, the information submitted, is to the best of my knowledge and belief, true, accurate, and complete.

  
\_\_\_\_\_  
Deborah A.S. Hoag, P.E.  
Utilities Division Manager

10/30/2007  
Date



## CITY OF READING, PENNSYLVANIA

ENVIRONMENTAL DIVISION  
815 WASHINGTON STREET  
READING, PA 19601-3690

PUBLIC WORKS  
DEPARTMENT

January 30, 2008

RECEIVED

JAN 31 2008

DEP - SOUTH CENTRAL REGION  
WATER MANAGEMENT PROGRAM

Ms. Margaret L. Hutchinson, Esq.  
Assistant United States Attorney  
Civil Division Eastern District of Pennsylvania  
615 Chestnut Street  
Suite 1250  
Philadelphia, PA 19106-4476

Re: City of Reading Consent Decree  
Calendar Quarterly Progress Report  
4<sup>th</sup> Quarter 2007

Dear Ms. Hutchinson:

In accordance with Section VI Reporting Requirements, Paragraph 41, you will find enclosed the City of Reading's Calendar Quarterly Report. This documents progress and status on the implementation of Section V Remedial Measures described in Paragraphs 7 through 40. Additionally, an update on penalty payment and the Angelica Stream Restoration SEP is included. Please feel free to contact me at 610-655-6258 should you have any comments or questions.

Sincerely,

Deborah A.S. Hoag, P.E.  
Utilities Division Manager

DH/eh

Cc: Christopher A. Day, Esq., US EPA  
Lisa Trakis, US EPA  
✓ Water Quality Manager, PA DEP, SC Region  
Charles M. Jones, P.E., Director of Public Works  
Ralph E. Johnson, Superintendent  
Stephen K. Hydro, P.E., Black & Veatch  
David A. Binder, Esq., Legal Counsel  
Keith Mooney, Esq., Legal Counsel

file



**City of Reading Consent Decree  
Calendar Quarterly Progress Report  
Period Ending December 31, 2007**

**V. REMEDIAL MEASURES**

**A. General Duties**

**7. Duty to Comply with Permit** – In progress. The City's wastewater treatment plant had no NPDES permit violations during this quarter.

**8. Operation and Maintenance of the Facility** – In progress. The City continues work formalizing and documenting the operational and maintenance procedures related to the treatment plant, pump stations, collection system, and laboratory.

**B. Interim Measures**

**9. Interim Compliance – Environmental Management System**

**(a) Submission** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on May 5, 2006. *The City awaits a response for the approval of the system and its components listed below as proposed.*

**(b) Maintenance Management System** - Continuing progress. The City continues the planned implementation of improved and expanded use of the Antero computerized maintenance management system. This ongoing increased use of the maintenance management system includes recurring work orders for maintenance upon discovery of the unaddressed cause of any problem. The use of this system is treated as an ongoing tool for the facilities' operations and maintenance. The wastewater treatment plant will migrate to the new CMMS being developed for the collection system due to the interrelated operations and maintenance activities.

**(c) Supervisory Control and Data Acquisition (SCADA) system**

**1. Interim SCADA System** – Completed and certified.

**2. Upgrades to SCADA System** – Not applicable. Upgrades not required based upon the submission and approval of paragraph 18. While not required by the Decree, the City continues progress with this operational tool in planning for the future plant improvements and ensuring operational consistency. Black & Veatch (B&V) has been retained to oversee the SCADA development for consistency and the development of standards and conventions for future use in the plant upgrades. It is anticipated that additional operational parameters will be added to the SCADA system. Select existing screens have been modified for operational and visual consistency and modifications to additional screens are planned. During this quarter, the focus included improvements to automate and monitor the sludge withdrawal from the primary clarifiers. Electrical work required for these improvements was bid and selected contractors completed the electrical work in preparation for their addition to the SCADA system. Additional operational improvements which received attention this quarter included:

- monitoring and control of the tertiary aeration system drain valves through the SCADA system;
- addition of independent flow monitoring occurring throughout the plant and collection system being incorporated into the SCADA system;
- monitoring of the headwork's operations;
- monitoring of the waste gas flare;
- development, implementation, and testing of monitoring and control screens for the operation of the Sixth and Canal and 18<sup>th</sup> Ward pump stations. (The new screens were developed to be visually consistent with the existing internal pump stations screens at the treatment plant.).

During the work at the remote pump stations, issues with the failover operations of the SCADA system were identified and solutions to these issues were developed. In addition, the intermediate pump station was found to have an operational glitch which occurs during high flow operations when recirculation pumps are used for forward flow. B&V has been working with plant staff to replicate the problem and determine the cause in order to resolve the issue. Finally, options to utilize the SCADA system as a reference tool are being investigated for non-routine conditions such as emergency power utilization and equipment restart.

**(d) Pretreatment Data Management System** – Continuing progress. The City continues the ongoing data entry into a commercial pretreatment database as well as an abbreviated spreadsheet as analytical results are received from both City sampling and industry self-monitoring.

**10. Interim Plant Influent Monitoring** – Completed and continuing as required.

**11. Interim Trickling Filter Performance Measures** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on February 17, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the request to change sampling locations for trickling filter continuing monitoring. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**(a) Performance Improvements** – Completed and ongoing as part of the Operations and Maintenance plan using the Computerized Maintenance Management System.

**(b) Unit Efficiency Monitoring Recirculation Rate** – Completed.

**(c) Recirculation Rate** - Completed with flow monitoring continuing for the primary recirculation. During the third quarter, problems were discovered upon the evaluation of the June 2007 flow data. During this period, the chart recorder continued to monitor the primary recirculation flow but the totalizer ceased to function. As a result, the total flow and flow percentages were unable to be calculated. An instrumentation contractor who maintains the plant flow meters investigated the problem and ordered the parts required to restore normal function. A vendor problem with the instrumentation manufacturer (found to impact the entire United States) delayed the receipt of parts required to restore normal function until December 5, 2007. The chart recorder and totalizer are

scheduled to be replaced to alleviate this type of vendor delay in the future. Since the identification of available piping, secondary trickling filter recirculation has been in continual use. City staff has investigated possible flow metering methods to document the secondary recirculation rate with limited success.

**(d) Longer Term Monitoring and Reporting** – Completed and continuing with modified locations as approved.

**12. Process Control Testing** – Completed and continuing as required. Plan submitted to US DoJ, US EPA, and PA DEP on February 7, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the request to change sampling locations for treatment units' continuing monitoring. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**13. Dangerous Gas Detection** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on February 7, 2006. Inspection and calibration are being done routinely and repairs are made when noted upon inspection.

**14. Certified Plant Operators** – The City currently has six shift supervisors who are assigned in categories as follows: day, evening, night, and rotating shifts, operational maintenance, and administrative. The supervisors began continuous coverage on November 1, 2006 as scheduled. During this reporting quarter the previously vacant rotating shift supervisor position was filled by an existing operator. The rotating shift supervisor schedule was covered by the other shift supervisors during the vacancy. The existing operator began his rotating shift supervisor role once his operator role was filled. To ease the tracking of licensed employees for the facility, a table has been developed for the facility's shift supervisors, and related City management staff. The facility currently requires a PA DEP Class A-2 for the plant and an E-4 for the collection system. These dual certification requirements have been extended to appropriate plant staff as they are also responsible for the pump station in the collection system. Shift supervisors, by virtue of their written job description, are required to pass the appropriate certification examination within twelve (12) months of hire or promotion into the position. All potential hires are informed of this requirement during the interview process. Most of the shift supervisors are new to the wastewater field. As a result, they are required to obtain the requisite operating experience prior to being issued their certification.

Employee	Title	PA DEP Certification
Charles M. Jones, P. E.	Director of Public Works	A,E – 1,2,3,4
Deborah A. S. Hoag, P. E.	Utilities Division Manager	A,E – 1,2,3,4
Ralph E. Johnson	Wastewater Superintendent	A,E – 1,2,3,4
Roger D. Hillibush	Operations Supervisor	A,E – 1,2,3,4
Russell L. Stoudt	Maintenance Supervisor	A,E – 1,2,3,4
Jackie C. Hendricks	Environmental Program Coordinator	A,E – 2,3,4
Amy L. Morriss	Laboratory Supervisor	A,E – 1,2,3,4
Gregory R. Fetter	Shift Supervisor – Operational Maintenance	A,E – 1,2,3,4
Robert E. Gensemer	Shift Supervisor - Administrative	E - 4 Passed exam A - 2
George E. Fultz, II	Shift Supervisor – Day	B,E – 2,4 Passed exam A
Felix V. Stacherski	Shift Supervisor – Evening	A,E – 2,4
Jeffrey Hunt	Shift Supervisor – Night	E - 4 Passed exam A - 2
Daniel J. Dixon	Shift Supervisor – Rotating	A,E – 2,4

The selected treatment alternative, as approved under Paragraph 18, requires an A-1 certification which is not currently required for the existing treatment plant. Most of the managers already possess this certification and some of the shift supervisors are planning to take the activated sludge module in advance of the construction to be prepared for the plant's transition from trickling filters to activated sludge. Additionally, the City has been discussing flexibility with the certification wording with the AFSCME local representing first level supervisors so that changes in technology or certification requirements do not require additional contract negotiations. *As discussed in the March 21<sup>st</sup> meeting (and the July 10<sup>th</sup> telephone conference), the new supervisory employees do not have specific wastewater experience prior to their hire but are required to pass the certification exam within twelve months of hire. PA DEP certification experience and training requirements do not allow the issuance of the operator certification based solely on the passing of the examination. Alternate language was proposed due to the difficulty recruiting already certified personnel to fill these positions and the timing required to obtain certification to provide the level of staffing required. The City suggests changing from "individual shall be required to obtain certification within 12 months of the date of hire" to "individual shall be required to pass the certification examination within 12 months of the date of hire" The City still awaits the formal response regarding the proposed alternate language.*

**15. Operations and Maintenance Plan** - Completed. Plan submitted to US DoJ, US EPA, and PA DEP on May 5, 2006. *The City awaits a response for the approval of the plan and its components listed as proposed.* Progress continues with future planned activities as discussed in the submitted plan. In the assessment of key processes, the City took action to eliminate bottlenecks and vulnerabilities to improve the performance of the existing plant. This was done as a necessary step to ensure regulatory permit compliance until the construction and

start-up of the new facilities. These are the interim improvements required in the Capital Improvements Plan. The City continues to make additional improvements beyond the initial assessments as part of the continual reevaluation and optimization of plant operations. During this quarter, the digestion portion of the solids handling process was, and will continue to be, a prime focus as repairs are made to a primary digester. Also, the tertiary aeration system operation and tracking / analysis of effluent dissolved oxygen and ammonia were a priority during this quarter.

**16. Staffing Plan** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on November 30, 2005.

**17. Interim Wet Weather Operational Strategy** - Completed. Plan submitted to US DoJ, US EPA, and PA DEP on November 7, 2006. *The City awaits a response with comments to the strategy submitted. Any comments received were to be addressed in the Wet Weather Operation Plan already submitted as required by Paragraph 29.*

### **C. Long Term Evaluation and Construction Schedule**

**18. Treatment Plant Alternatives Submission** – Completed. See below.

**(a) Existing Plant Process Evaluation Report** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 17, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the selected liquid and solids treatment technologies. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**(b) Evaluation of Treatment Alternatives Report** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 17, 2006 and formal presentation of the report and findings conducted at March 21<sup>st</sup> meeting. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the selected liquid and solids treatment technologies. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**19. Capital Improvements Plan** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 16, 2007. Preliminary costs for biological treatment and solids handling facilities were developed as part of the plant and treatment alternatives report. Common facilities including headworks facilities and disinfection alternatives are being evaluated that were not required for the treatment alternative report. During the fourth quarter, B&V finalized the disinfection alternatives report based upon the City's comments. Additionally, B&V is developing alternatives and cost estimates for wastewater routing between the 6<sup>th</sup> and Canal PS headworks and plant headworks as well as plant and pump station improvements required as a result with conservative cost estimates used for the submitted Capital Improvements Plan. Current evaluations and preliminary sizing may require minor refinement as flow projections are finalized with contributing municipalities, common facility evaluations are reviewed and approved, and construction staging and final site layout are determined. Some of these will occur upon selection of the WWTP design engineering team.



In the assessment of key processes for the Operations and Maintenance Plan, the City took action to eliminate bottlenecks and vulnerabilities as well as to evaluate and make cost-effective interim upgrades for performance improvements to the existing plant. This was previously submitted as part of the Operations and Maintenance Plan required by Paragraph 15. The City did this earlier than required as a perceived necessary step to ensure regulatory permit compliance until the construction and start-up of the new facilities. Additionally, the City continues to make improvements beyond the initial assessments as part of the continual reevaluation and optimization of the existing plant operations. This is ongoing with current update information noted above in Paragraph 15.

**20. Request for Proposals – In Progress.** The City issued a request for qualifications (RFQ) for the implementation of the selected treatment alternative to identify design firms to be invited to submit a proposal in response to the City's request for proposals (RFP). The City assembled a committee comprised of internal and external, technical and non-technical reviewers to review qualifications and proposals, to score and rank firms, and to make recommendations to the administration and Council for the selection of the WWTP design firm. The City received qualification statements from a total of nine potential design teams which the selection committee reduced to four firms to receive the RFP. During the fourth quarter, the City issued the RFP to the selected design teams. A pre-proposal meeting and WWTP tour were conducted on December 4<sup>th</sup> with proposals due December 20<sup>th</sup>. The firms received the treatment alternatives report as well as the finalized disinfection alternatives report since these facilities are included in the WWTP design being proposed by the design teams. During the submission of questions in the RFP process, the City received a request for additional time to prepare the proposals and postponed the submission until January 4, 2008 to allow the teams additional preparation time.

**21. Permit Applications and Design – No progress.**

**22. Permitting – Not applicable.**

**23. Construction Completion – No progress.**

**24. Start-Up and Operation – No progress.**

#### **D. Collection System**

**25. GIS Mapping System - In progress. See below.**

(a) **Purpose of GIS System - Not applicable.**

(b) **GIS Mapping of the Sanitary Sewer Collection System – In progress.** The 2005 aerial photography of the collection system has been accepted following quality control checks by the City GIS Coordinator. With the assistance of City sewer team personnel, ATS Chester began field data collection in July, 2006. The initial phase for field data collection is the sanitary interceptors and force mains with phase two being the remaining sanitary structures. The GIS mapping follows each phase's data collection with submission to the City for review and approval. The City conducted meetings with ATS Chester staff to find ways to expedite the process. The City has dedicated staff to support

investigation efforts as needs are communicated by ATS Chester. During this quarter and the previous quarter, ATS Chester made additional staffing changes to lead staff for the project. The City's GIS technician has been dedicated to performing data reviews and monitoring the quality of data submitted. As further support, the City requested that B&V provide additional review of data in order to determine if reliable information is available to execute the hydraulic model of the large diameter sanitary sewers. As of the end of the 4<sup>th</sup> quarter of 2007, acceptable GPS data had not yet been received. The City received several data submissions for review with the final submission for the quarter considered complete by ATS Chester. The City has started the review and noted several substantial problems including incorrect pipe diameters. The City continues to move forward with B&V and Woolpert in order to continue with the required modeling and software implementation as much as practical given the status of the data collection. Concerns remain regarding Consent Decree deadlines and these concerns have been continually stressed to all parties involved. The City continues to make every effort to move forward practically and efficiently as possible. *During this quarter, the City communicated concerns to ATS Chester regarding the lack of response to comments submitted during the previous quarters and potential impacts on Consent Decree deadlines for this and dependent tasks.*

**(c) GIS Mapping of the Storm Water Collection System** - In progress. The third phase for field data collection and GIS mapping is the storm water system. Many of the structures are collected while ATS Chester performs phases one and two data collection, however the GIS mapping for the sanitary system will precede the storm water system mapping. As the City had no electronic version of the storm water system, B&V developed a rough layout for use as a starting point in field data collection. With a storm water inspection that occurred as a result of the June 2006 flood, the City discovered that many storm system improvements constructed in the 1980's were not updated on the index map in use and digitized by B&V. City engineering personnel determined what improvements were not included and updated the paper mapping from which B&V updated the digitized index map for ATS Chester to use for guidance.

## **26. Sanitary Sewer System Evaluation Program**

### **(a) I/I Analysis by Subsystem**

**1. Baseline Flow and Rainfall** – In Progress. The flow monitoring and data reduction have been completed by B&V for the I&I analysis. A draft report was submitted to the City for review and comment. Limited reliable data was available for the existing system and tributary populations. Draft prioritization of areas and predictions for peak flows were developed; however, data is being refined as new information is received. The hydraulic modeling of the interceptors is a key to re-evaluating priorities

based on projected bottlenecks that may exist. The City has met with all of the satellite municipalities to gather information on current and future populations, I&I mitigation programs, and definition of tributary areas. In addition, the City has progressed with its program for data collection on the City's system through GPS mapping.

**2. Hydraulic Modeling – In Progress.** The City has reviewed its system configuration and limitations for consideration in the selection of a hydraulic model. Based on the complexity of the system, B&V recommended a dynamic model named InfoWorks. The ongoing GPS field investigations are being performed in stages with priority being placed on the sanitary sewer interceptors in order to facilitate the hydraulic modeling. Upon development of a satisfactory inventory of Phase 1 GPS data, B&V will begin setting up and calibrating the model. Data was received from the GPS consultant on December 24, 2007 which still contained numerous apparent inaccuracies including incorrect pipe diameters which would negatively impact the hydraulic modeling. A detailed review of the data received has been initiated in order to determine the extent of problems to be expected during the detailed hydraulic modeling. Despite the status of the inventory data, modeling efforts have been initiated. These efforts include selection of the type of model, definition of data requirements, review of available base flow data, and review of potential design storms and rainfall distribution. *The City has concerns about the schedule for completing the modeling based upon the ongoing issues with the quality of data received from the GPS field verification.*

**(b) Sewer System Evaluation Survey – In Progress.** The process for the SSES was initiated with the flow monitoring program for the I&I analysis. The City has worked with B&V to develop a manhole numbering system for the sanitary sewer system. A preliminary assignment of identifiers was made to manholes indicated on available historical mapping. The GPS contractor is currently performing field investigations which will be used to refine the system numbering and subsystem delineation and resolve discrepancies found between record drawings and the actual infrastructure in the field. Although not explicitly required within the Consent Decree, the City has engaged B&V to develop a maintenance, operation and management (MOM) plan for the collection system in order to help set priorities and standardize operations of City sewer crews. The MOM plan is intended to serve as a guide for the execution of the required SSES as well as ongoing future maintenance of the collection system. B&V has provided draft technical specifications for additional system evaluation to be conducted in accordance with the I&I report recommendations.

**27. Rehabilitation Plan – No progress.** *The SSES is required to commence by May 7, 2008 while the dependent rehabilitation plan is due prior to the study on which it is based.* [ Start Jan 15, 2008 ]

**28. Rehabilitation of Priority Areas of Collection System** – No progress.

**29. Wet Weather Operation Plan** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on May 7, 2007. *No comments to the Interim Wet Weather Operational Strategy submitted per Paragraph 17 above that were to be addressed in this submittal. The City awaits a response for the approval of the plan and its components listed as proposed.* The WWTP effluent pipe to the Schuylkill River and discharge options continue to be reviewed by an independent hydraulics engineer. A draft report was received for review. Planned testing will occur during subsequent extreme high flow events and be included in this plan. Standards operating procedures (SOPs) will be revised for use under adverse conditions.

#### **E. Pretreatment Program**

**30. General Duty** – In progress. The City has an approved pretreatment program and continues to regulate industrial users in the collection system.

**31. Enforcement Response Plan (ERP) Implementation** – In progress. The City continues to follow the ERP in order to encourage compliance from all industrial dischargers. This is reported directly to US EPA with the quarterly compliance reports.

**32. ERP - Penalty Escalation and Compliance Schedule** – In progress. The City has been escalating penalties for all industries that are in significant non-compliance for a given parameter for two consecutive quarters. This is reported directly with the quarterly industrial pretreatment status reports to US EPA. The City will continue with this reporting method for the future. Tracking of the penalty collection has been difficult due to a 2005 software change in the City's Finance department. Most problems occur during the transitional period and require coordination between Finance and IT to have an accurate report for tracking payment status. Determining and resolving the source of these errors has been problematic due to the methods employed during the transition. The recent data for tracking the penalties assessed is more accurate.

**33. ERP – Order, Permit Revocation, and Federal Referral** – In progress. The City continues escalating the enforcement actions focusing on the financial penalties assessed to permittees who remain in significant non-compliance. The City continues issuing penalties for compliance issues that were not fined previously such as pH, late reports, late sampling, and late permit applications.

**34. Local Limit Adoption by Contributing Municipalities** – In progress. Most of the municipalities have adopted the City's sewer use ordinance providing permitting and enforcement abilities for the City with industrial users. All the municipalities with permitted industries have adopted the ordinance. US EPA provided the status from the 2005 audit listing the municipalities requiring ordinance adoption. This has been discussed with solicitors and directly with individual municipalities in question. Electronic versions of the City's sewer use ordinance have been provided to each municipality, engineer, and/or solicitor to prepare for adoption. Little feedback has been received regarding questions or recent adoption but the authorities now understand that it must be completed by the municipality. The City has requested notification and proof of ordinance

adoption be submitted. During the 4<sup>th</sup> quarter, the City received notification that Shillington Borough adopted the City's sewer use ordinance.

**35. Non-Residential Connection Evaluation and Investigation** – In progress. The City has been working with the contributing municipalities to obtain information in order to send a survey to evaluate nonresidential users that may be subject to the pretreatment program. This has been requested among other submissions from individual municipalities. This was also discussed with the municipal meetings conducted in 2007. These one-on-one meetings seemed to be the best format to emphasize the importance of this data as well as providing an opportunity for municipalities to ask questions regarding clarification of non-residential users. Information received near the end of the 3rd quarter from the contributing municipalities for 2006 data was the first time this was received from many municipalities. From the initial review and formatting of the data received, this appears to include many of the commercial users that have been lacking in past information submitted. The initial survey to be used has been developed and will be sent out by municipality in order to stagger the resultant workload of the evaluation and inspections that will result.

**36. Increased Monitoring for Violators** – In progress. The City continues to increase City sampling and self-monitoring for frequent violators. In general, permits may be amended or re-issued requiring multiple resamples for parameters with prior compliance issues. Some permits require increased frequency of monitoring for multiple quarters of compliance prior to returning to a less frequent self-monitoring schedule. Additional monitoring by both the City and the industry is being tracked and reported to US EPA quarterly.

**37. Pretreatment Computerized Management System** - In progress and continuing. The City continues data entry into a commercial pretreatment database as well as an abbreviated spreadsheet upon receipt of analytical results from both City and industrial sampling.

**38. Local Limits Re-Evaluation** – Completed. Evaluation submitted to US DoJ and US EPA on May 5, 2006. Comments were received from US EPA and the City has been working with B&V to address the comments and concerns. A letter will be forthcoming addressing the concerns noted.

**39. Quarterly SNC Reports to US EPA** – In progress. The City continues to provide quarterly SNC reports to US EPA.

#### **F. Funding**

**40. Funding** – In progress. The 2008 budget was prepared to be presented to City Council with \$750,000 less in the transfer from the sewer fund to the general fund than in 2007. For 2007, the budgeted transfer amount is \$3,750,000 with the 2008 budgeted transfer amount being \$3,000,000.

### **IX. CIVIL PENALTY**

**47. and 49. Penalty Amount and Payment Instructions** – Completed.

## **X. SUPPLEMENTAL ENVIRONMENTAL PROJECTS: Angelica Stream Restoration**

### **52. Details of SEPs listed below**

- a) Background** - Not applicable.
- b) Goals of SEPs** - Not applicable.
- c) Removal of excess sediment and soil stabilization SEP** – Completed. Bridge installation completed this quarter as scheduled.
- d) Angelica Creek Restoration SEP** – Completed.
- e) Angelica Creek Riparian Buffer SEP** – Completed.
- f) Wetland Creation SEP** – Completed.
- g) Flood plain Meadow SEP** – Completed.
- h) Annual Maintenance and Access to SEPs** – No progress. To be done after construction is complete.
- i) Design Costs and Final Plan** – Completed.
- j) Defendant Certification** – Not applicable.
- k) SEP Completion Report** – Please see the detailed information below.

The final construction permits were received during September, 2006. The project was advertised for construction bids during October, 2006. Bids were opened and a contract was awarded to E. Kuser, Inc., 150 Grings Hill Road, Sinking Spring, PA 19608, in the amount of \$1,131,161.13. Construction began on November 27, 2006. Upon completion of the project as awarded, the City will begin the SEP Completion Report and the corresponding certification.

In accordance with Section X Paragraph 52 of the Consent Decree, construction work on the Angelica Stream Restoration Supplemental Environmental Projects (SEPs) was completed within two years of the Entry Date. The SEPs described in Paragraphs 52(c) through 52(g) were subject to the two-year completion period. At this point, only work described in Paragraph 53(h) remains to be completed. Specifically, signing and benches must be installed. The footbridge over the Angelica Creek was installed in early December, 2007. Certain grasses and other plantings which did not take root when first planted must be replaced to completely stabilize the area during Spring, 2008.

The estimated costs included in the Consent Decree for Paragraphs 52(c) through 52(g) were all exceeded during the construction of the SEPs. Table 1 is a tabulation of the bid of E. Kuser, Inc. with the individual line items color-coded to indicate the various SEPs. Table 2 is a comparison of SEP estimates and executed costs, with the same color coding. All contract work was paid with City of Reading funds. No financial aid of any kind was sought or obtained. While neighborhood interest in the project was very high, volunteer services were not utilized for any of the SEP work. Plans are being developed to restore the existing boat house and improve other areas of Angelica Park outside of the SEP area. Ample

opportunities will exist for volunteer services as these additional improvements are constructed.

An official opening of the SEP area of Angelica Park is planned for early Spring 2008. The educational community of Berks County is quite anxious for the park opening. The learning opportunities for the youth of Greater Reading are limitless.

**Table 1**  
**E. Kuser, Inc. Bid Tabulation**

		<u>E. Kuser, Inc.</u>		
Description	Unit	Quantity	Unit Price	Extension
<b>Earthwork</b>				
Planing and Grading	LS	11,540.00	\$ 1.50	\$ 17,310.00
Planing and Grading	LS	11,540.00	\$ 1.50	\$ 17,310.00
Planing and Grading	LS	11,540.00	\$ 1.50	\$ 17,310.00
Planing and Grading	LS	11,540.00	\$ 1.50	\$ 17,310.00
<b>Erosion and Sediment Pollution Control and Drainage</b>				
Straw Mulch	Tons	42	\$ 569.00	\$ 23,898.00
Temporary Sedimentation	LS	706	\$ 6.00	\$ 4,236.00
Concrete and Gravel Bypass	Each	1	\$ 2,800.00	\$ 2,800.00
Temporary Rock Outlet Structure	Each	1	\$ 2,800.00	\$ 2,800.00
Temporary Sedimentation	LS	1,000	\$ 4.15	\$ 4,150.00
Temporary Sedimentation	LS	1,000	\$ 4.15	\$ 4,150.00
Sedimentation	Each	1	\$ 2,800.00	\$ 2,800.00
42" ADS N-12 Temporary Pipe	LF	50	\$ 56.00	\$ 2,800.00
Temporary ADS Pipe	LF	1,000	\$ 2.80	\$ 2,800.00
Temporary ADS End Section	Each	1	\$ 13,716.00	\$ 13,716.00
Protective Fence	LF	2,530	\$ 2.70	\$ 6,831.00
Stream Diversion Structures	Each	2	\$ 2,800.00	\$ 5,600.00
18" ADS N-12 Pipe Conveyance	LF	50	\$ 56.00	\$ 2,800.00
Hardware-Stream Diversion	LS	1	\$ 800.00	\$ 800.00
Ballfield Structure Box	Each	1	\$ 8,291.00	\$ 8,291.00
Ballfield 42" ADS N-12	LF	70	\$ 108.50	\$ 7,595.00
Ballfield End Section	Each	1	\$ 8,291.00	\$ 8,291.00
Pond Outlet Structure	LS	1	\$ 13,716.00	\$ 13,716.00



Pond 36" ADS Pipe	LF	83	\$ 84.00	\$ 6,972.00
Pond Outlet End Section	Each	1	\$ 2,440.00	\$ 2,440.00

#### Habitat and In-Stream Structures

Rock Outlets	Each	1	\$ 1,000.00	\$ 1,000.00
Rock Walls	Each	1	\$ 1,000.00	\$ 1,000.00
Rock Armchairs	Each	1	\$ 1,000.00	\$ 1,000.00
Wood Armchairs	Each	1	\$ 1,000.00	\$ 1,000.00
Wood Armchairs	Each	1	\$ 1,000.00	\$ 1,000.00
Wood Armchairs	Each	1	\$ 1,000.00	\$ 1,000.00
Wood Armchairs	Each	1	\$ 1,000.00	\$ 1,000.00
Wood Armchairs	Each	1	\$ 1,000.00	\$ 1,000.00

#### Permanent Seeding and Planting

Blueflag Iris	Each	300	\$ 3.50	\$ 1,050.00
Arrow Arum	Each	1,375	\$ 3.50	\$ 4,812.50
Pickrel Weed	Each	675	\$ 3.50	\$ 2,362.50
Common Three Square	Each	500	\$ 3.50	\$ 1,750.00
Common Bulrush	Each	200	\$ 3.50	\$ 700.00
Hardwood Mulch	CY	35	\$ 225.00	\$ 7,875.00
Upland Meadow Seed	Lbs.	54	\$ 420.00	\$ 22,680.00
Embankment Stabilization Seed	Lbs.	64	\$ 325.00	\$ 20,800.00
Floodplain Seed	Lbs.	29	\$ 325.00	\$ 9,425.00
Wetland 1 Seed	Lbs.	19	\$ 375.00	\$ 6,937.50
Wetland 2 Seed	Lbs.	16	\$ 450.00	\$ 6,975.00
Turf Seed	Lbs.	30	\$ 340.00	\$ 10,200.00
Straw Mulch	Tons	35	\$ 350.00	\$ 12,250.00
Seed Bed Preparation	AC	12	\$ 1,025.00	\$ 12,300.00
Plant Establishment	LS	1	\$ 2,940.00	\$ 2,940.00

Blueflag Iris	Each	300	\$ 3.50	\$ 1,050.00
Arrow Arum	Each	1,375	\$ 3.50	\$ 4,812.50
Pickrel Weed	Each	675	\$ 3.50	\$ 2,362.50
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Common Bulrush	Each	200	\$ 3.50	\$ 700.00
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Plant Establishment	LS	1	\$ 2,940.00	\$ 2,940.00



### Site Amenities

Variable	Mean	Standard Deviation	Minimum	Maximum
Age	34.5	10.2	22	55
Gender	0.5	0.5	0	1
Education	12.5	1.5	10	15
Income	45000	15000	20000	80000
Marital Status	0.7	0.5	0	1
Health	0.8	0.4	0	1
Smoking	0.3	0.5	0	1
Alcohol	0.2	0.4	0	1
Exercise	0.6	0.5	0	1
Stress	0.5	0.5	0	1
Depression	0.4	0.5	0	1
Loneliness	0.3	0.5	0	1
Life Satisfaction	0.7	0.4	0	1

Miscellaneous Items					
Aluminum	0.15	0.15	0.15	0.15	0.15
Aluminum (Aluminum)	0.15	0.15	0.15	0.15	0.15
Aluminum (Aluminum)	0.15	0.15	0.15	0.15	0.15
Aluminum (Aluminum)	0.15	0.15	0.15	0.15	0.15

## SUMMARY OF COSTS

**Table 2**  
**SEP vs. Executed Cost Comparison**

Page 14 of 18

## **Additional Items related to Consent Decree**

### **Personnel**

**Operator Certification** – The City administration supported management in both water and wastewater during AFSCME contract negotiations. The administration interpreted the new DEP certification regulation to compel certain rank and file AFSCME positions to obtain PA DEP operator certification. Personnel in those positions are given 24 months in which to pass the appropriate certification exams. New hires or transfers into operations are advised of the certification need initially and given materials to read and review as part of their orientation and training. Based on the AFSCME contract language, July 15, 2007 was the initial date for employees who were in operational positions 24 months ago to be required to be certified. From there, new employees' certification requirements are being tracked based on the position start date. The positions requiring certification are Fritz Island Operator (Plant Operator), Pump Tender, and Belt Filter Press Operator (Solids Operator). The first two positions each have four people to provide continual coverage while the last position currently has two people providing two shifts weekdays and weekend coverage as needed. The current AFSCME contract expires on December 31, 2007, and the City is engaged in contract negotiations. The City has introduced modified language regarding operator certification to provide flexibility in light of the need for different modules for the approved treatment alternative. This has yet to be resolved. The following table shows the certification status of the rank and file employees in the positions requiring certification.

<b>Position</b>	<b>PA DEP Certification</b>
Plant Operator - Day	A,E - 2,3,4
Plant Operator - Evening	A,E - 2,3,4
Plant Operator - Night	Passed exam A,E - 2,4
Plant Operator - Rotating	Due by 10/22/2009
Pump Tender – Day	Due by 06/18/2009
Pump Tender - Evening	Due by 05/03/2008
Pump Tender - Night	Due by 09/04/2009
Pump Tender – Rotating	Due by 07/16/2009
Solids Operator - Day	A,E – 2,4
Solids Operator - Evening	Passed exam E-4. Due by 10/19/2008

### **Operations and Maintenance**

**19<sup>th</sup> Ward PS Overflow Monitoring** –The chart recorder is a daily chart per the recommendations of the hydraulic engineer studying the site. This is to enhance the ability to review pump operations during adverse conditions. Additionally, the secondary wet well level sensor that controls the pumps under high flow conditions has a separate chart recorder added for monitoring. This is being used to monitor the duration of any future overflows from this station. The system showed no overflows occurred during this quarter which was verified by operations staff performing routine inspections. This monitoring evaluation will continue as field-verified levels for potential overflows are determined.

### **Computerized Maintenance Management System (CMMS) for Collection**

**System**— To adequately perform and document an ongoing infiltration and inflow program, catalog televisual inspection, and track service calls and repairs in the collection system, the City determined the need for a formal method to catalog the information. Geographical documentation of this information was the selected method for the database structure. The original intent was for the sanitary and storm sewer systems and the pump stations to switch to this software as fewer major changes are anticipated in the near future. Following the project kickoff, wastewater treatment determined it would be simpler to migrate from the existing CMMS software to the new software and have it debugged with personnel gaining experience prior to the new plant's construction. This quarter, the City met with Woolpert and provided them with the existing CMMS database to determine how the data migration can be accomplished as well as defining structure and set up within the CMMS. Woolpert has been working to incorporate the existing personnel structure and types of service requests and work orders for wastewater treatment, sanitary sewers, and storm sewers. This quarter, a static database of City information was received for testing and training purposes. Woolpert is making modifications to incorporate the existing work order format, priority, and assignment. A different method of communication to City Hall servers was also researched and will be implemented pending ultimate communication speed improvements. Recurring safety and administrative functions are being incorporated into the existing CMMS and will be migrated into this software. Ultimately, this software is planned to be used in most of the Public Works Department.

+ 3 mos from  
para 9(c)

### **Laboratory and Administration**

**Land and Building** – The City purchased a parcel of land in 2005 adjacent to the wastewater treatment plant to be used for the construction of a new building for the administration and the laboratory. The City purchased a second adjacent parcel in March 2007. On August 8, 2007, the City issued requests for proposals (RFPs) to perform a feasibility study and property survey for the proposed building needs, layout, and site work. Proposals have been received and were reviewed. During this quarter, successful firms were selected and notified with the intent to expedite the project to provide additional flexibility during the actual plant construction. Both firms began work according to their contracts and have begun dialogue to coordinate work as required. The City intends to have the land development plans submitted to the Township for review early in 2008.

**Laboratory Audit** – With the recent increase in regulation of environmental laboratories that are regulated by PA DEP, the City has opted to have an independent laboratory audit conducted. The goal is to discover and correct any deficiencies prior to the field audit by PA DEP lab accreditation personnel. Four complex accredited parameters (TSS, CBOD<sub>5</sub>, NH<sub>3</sub>-N, and FC) conducted by the City's laboratory are subject to PA DEP audit and four parameters (pH, TRC, DO, and Color) are accredited by rule. The quality manual has been reviewed as well as all but one of the complex parameters. The City was audited by PA DEP in November, 2007. The City received verbal notification and a letter detailing audit findings which included three minor comments. The City addressed these issues.

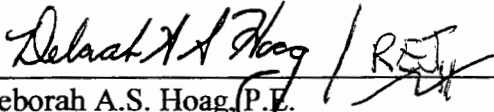
would pursue a Consent Order related to air quality to which the City explained that the Consent Decree addressed the WWTP as a whole and air quality and odor controls would be designed as integral components of the facility. The City provided the additional data requested by PA DEP. In addition, the City has made several process improvements in the form of automation but has not heard from PA DEP regarding some major concerns from the November 2005 meeting until the receipt of this permit. The City formally appealed the permit issuance and contents to the Environmental Hearing Board as is the process dictated in these circumstances. A meeting with PA DEP occurred in October 2007 in order to discuss the appeal and pending air quality permit. In response to that meeting, the City submitted best management practices for the waste gas flare that DEP wants to include in the permit. The City awaits the receipt of a draft permit for review and comment.

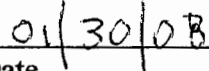
## **VI. REPORTING REQUIREMENTS**

### **41. Report Contents and Certification**

- (a) Remedial Measures Paragraphs 7 through 40** – See above numbered sections.
- (b) Anticipated Problems** – See italics in above numbered sections.
- (c) Additional Matters** – See italics in above unnumbered sections.
- (d) Certification Statement** –

I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my directions and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, the information submitted, is to the best of my knowledge and belief, true, accurate, and complete.

  
Deborah A.S. Hoag, P.E.  
Utilities Division Manager

  
Date



## CITY OF READING, PENNSYLVANIA

ENVIRONMENTAL DIVISION  
815 WASHINGTON STREET  
READING, PA 19601-3690

PUBLIC WORKS  
DEPARTMENT

April 30, 2008

Ms. Margaret L. Hutchinson, Esq.  
Assistant United States Attorney  
Civil Division Eastern District of Pennsylvania  
615 Chestnut Street  
Suite 1250  
Philadelphia, PA 19106-4476

Re: City of Reading Consent Decree  
Calendar Quarterly Progress Report  
1<sup>st</sup> Quarter 2008

Dear Ms. Hutchinson:

In accordance with Section VI Reporting Requirements, Paragraph 41, you will find enclosed the City of Reading's Calendar Quarterly Report. This documents progress and status on the implementation of Section V Remedial Measures described in Paragraphs 7 through 40. Additionally, an update on penalty payment and the Angelica Stream Restoration SEP is included. Please feel free to contact me at 610-655-6258 should you have any comments or questions.

Sincerely,

Deborah A.S. Hoag, P.E.  
Utilities Division Manager

DH/eh

Cc: ✓ Christopher A. Day, Esq., US EPA  
Lisa Trakis, US EPA  
Lee McDonnell, PA DEP  
Shawn Arbaugh, PA DEP  
Charles M. Jones, P.E., Director of Public Works  
Ralph E. Johnson, Superintendent  
Stephen K. Hydro, P.E., Black & Veatch  
David A. Binder, Esq., Legal Counsel  
Keith Mooney, Esq., Legal Counsel  
file



**City of Reading Consent Decree  
Calendar Quarterly Progress Report  
Period Ending March 31, 2008**

**V. REMEDIAL MEASURES**

**A. General Duties**

**7. Duty to Comply with Permit** – In progress. The City's wastewater treatment plant had no NPDES permit violations during this quarter.

**8. Operation and Maintenance of the Facility** – In progress. The City continues work formalizing and documenting the operational and maintenance procedures related to the treatment plant, pump stations, collection system, and laboratory.

**B. Interim Measures**

**9. Interim Compliance – Environmental Management System**

**(a) Submission** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on May 5, 2006. *The City awaits a response for the approval of the system and its components listed below as proposed.*

**(b) Maintenance Management System** - Continuing progress. The City continues the planned implementation of improved and expanded use of the Antero computerized maintenance management system. This ongoing increased use of the maintenance management system includes recurring work orders for maintenance upon discovery of the unaddressed cause of any problem. The use of this system is treated as an ongoing tool for the facilities' operations and maintenance. The wastewater treatment plant will migrate to the new CMMS being developed for the collection system due to the interrelated operations and maintenance activities.

**(c) Supervisory Control and Data Acquisition (SCADA) system**

**1. Interim SCADA System** – Completed and certified.

**2. Upgrades to SCADA System** – Not applicable. Upgrades not required based upon the submission and approval of paragraph 18. While not required by the Decree, the City continues progress with this operational tool in planning for the future plant improvements and ensuring operational consistency. Black & Veatch (B&V) has been retained to oversee the SCADA development for consistency and the development of standards and conventions for future use in the plant upgrades. It is anticipated that additional operational parameters will be added to the SCADA system. Select existing screens have been modified for operational and visual consistency and modifications to additional screens are planned. During this quarter, the focus included plant operational improvements to increase automation, monitoring, and control for improved efficiency and stability. B&V was on site to also perform training for operations personnel with the enhancements that were made. The operational improvements that occurred this quarter included:

- Automating the primary clarifier sludge withdrawal to include monitoring and control
- Monitoring and control of the tertiary aeration system drain valves through the SCADA system;
- Addition of independent flow monitoring throughout the plant and collection system incorporated into the SCADA system;
- Confirmation of the headwork's monitoring operations;
- Monitoring of the waste gas flare;
- Development, implementation, and testing of monitoring and control screens for the normal and emergency operation of the Sixth and Canal and 18<sup>th</sup> Ward pump stations. The new screens were developed to be visually consistent with the existing internal pump stations screens at the treatment plant.

During the work at the remote pump stations, issues with the failover operations of the SCADA system were identified and solutions to these issues were implemented. In addition, the intermediate pump station was found to have an operational glitch which occurs when changing the operational mode. This was noted during high flow operations when recirculation pumps are used for forward flow. B&V worked with plant staff to determine the cause and the programming was amended to resolve the issue. Finally, options to utilize the SCADA system as a reference tool are being investigated for non-routine conditions such as emergency power utilization and equipment restart.

**(d) Pretreatment Data Management System** – Continuing progress.

The City continues the ongoing data entry into a commercial pretreatment database as well as an abbreviated spreadsheet as analytical results are received from both City sampling and industry self-monitoring.

**10. Interim Plant Influent Monitoring** – Completed and continuing as required.

**11. Interim Trickling Filter Performance Measures** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on February 17, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the request to change sampling locations for trickling filter continuing monitoring. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**(a) Performance Improvements** – Completed and ongoing as part of the Operations and Maintenance plan using the Computerized Maintenance Management System.

**(b) Unit Efficiency Monitoring Recirculation Rate** – Completed.

**(c) Recirculation Rate** - Completed with flow monitoring continuing for the primary recirculation. The chart recorder and totalizer were replaced to alleviate vendor delays as discussed in past reports. Since the identification of available piping, secondary trickling filter recirculation has been in continual use. City staff has investigated possible flow metering methods to document the secondary recirculation rate with limited success.

**(d) Longer Term Monitoring and Reporting** – Completed and continuing with modified locations as approved.

**12. Process Control Testing** – Completed and continuing as required. Plan submitted to US DoJ, US EPA, and PA DEP on February 7, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the request to change sampling locations for treatment units' continuing monitoring. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**13. Dangerous Gas Detection** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on February 7, 2006. Inspection and calibration are being done routinely and repairs are made when noted upon inspection.

**14. Certified Plant Operators** – The City currently has six shift supervisors who are assigned in categories as follows: day, evening, night, and rotating shifts, operational maintenance, and administrative. The supervisors began continuous coverage on November 1, 2006 as scheduled. During this reporting quarter the night shift supervisor obtained his certification having fulfilled the experience requirement. To ease the tracking of licensed employees for the facility, a table has been developed for the facility's shift supervisors, and related City management staff. The facility currently requires a PA DEP Class A-2 for the plant and an E-4 for the collection system. These dual certification requirements have been extended to appropriate plant staff as they are also responsible for the pump station in the collection system. Shift supervisors, by virtue of their written job description, are required to pass the appropriate certification examination within twelve (12) months of hire or promotion into the position. All potential hires are informed of this requirement during the interview process. Most of the shift supervisors are new to the wastewater field. As a result, they are required to obtain the requisite operating experience prior to being issued their certification.

Employee	Title	PA DEP Certification
Charles M. Jones, P. E.	Director of Public Works	A,E – 1,2,3,4
Deborah A. S. Hoag, P. E.	Utilities Division Manager	A,E – 1,2,3,4
Ralph E. Johnson	Wastewater Superintendent	A,E – 1,2,3,4
Roger D. Hillibush	Operations Supervisor	A,E – 1,2,3,4
Russell L. Stoudt	Maintenance Supervisor	A,E – 1,2,3,4
Jackie C. Hendricks	Environmental Program Coordinator	A,E – 2,3,4
Amy L. Morriss	Laboratory Supervisor	A,E – 1,2,3,4
Gregory R. Fetter	Shift Supervisor – Operational Maintenance	A,E – 1,2,3,4
Robert E. Gensemer	Shift Supervisor - Administrative	E - 4 Passed exam A - 2
George E. Fultz, II	Shift Supervisor – Day	B,E – 2,4 Passed exam A
Felix V. Stacherski	Shift Supervisor – Evening	A,E – 2,4
Jeffrey Hunt	Shift Supervisor – Night	A,E – 2,4
Daniel J. Dixon	Shift Supervisor – Rotating	A,E – 2,4

The selected treatment alternative, as approved under Paragraph 18, requires an A-1 certification which is not currently required for the existing treatment plant. Most of the managers already possess this certification and some of the shift supervisors are planning to take the activated sludge module in advance of the construction to be prepared for the plant's transition from trickling filters to



activated sludge. Additionally, the City has been discussing flexibility with the certification wording with the AFSCME local representing first level supervisors so that changes in technology or certification requirements do not require additional contract negotiations. *As discussed in the March 21<sup>st</sup> meeting (and the July 10<sup>th</sup> telephone conference), the new supervisory employees do not have specific wastewater experience prior to their hire but are required to pass the certification exam within twelve months of hire. PA DEP certification experience and training requirements do not allow the issuance of the operator certification based solely on the passing of the examination. Alternate language was proposed due to the difficulty recruiting already certified personnel to fill these positions and the timing required to obtain certification to provide the level of staffing required. The City suggests changing from "individual shall be required to obtain certification within 12 months of the date of hire" to "individual shall be required to pass the certification examination within 12 months of the date of hire" The City still awaits the formal response regarding the proposed alternate language.*

**15. Operations and Maintenance Plan - Completed.** Plan submitted to US DoJ, US EPA, and PA DEP on May 5, 2006. *The City awaits a response for the approval of the plan and its components listed as proposed.* Progress continues with future planned activities as discussed in the submitted plan. In the assessment of key processes, the City took action to eliminate bottlenecks and vulnerabilities to improve the performance of the existing plant. This was done as a necessary step to ensure regulatory permit compliance until the construction and start-up of the new facilities. These are the interim improvements required in the Capital Improvements Plan. The City continues to make additional improvements beyond the initial assessments as part of the continual reevaluation and optimization of plant operations. During this quarter, the digestion portion of the solids handling process was the prime focus as repairs are made to a primary digester. The preliminary testing was successful. Following the receipt and installation of key operational components, the digester will have the second operational testing performed prior to the return to service.

**16. Staffing Plan – Completed.** Plan submitted to US DoJ, US EPA, and PA DEP on November 30, 2005.

**17. Interim Wet Weather Operational Strategy - Completed.** Plan submitted to US DoJ, US EPA, and PA DEP on November 7, 2006. *The City awaits a response with comments to the strategy submitted. Any comments received were to be addressed in the Wet Weather Operation Plan already submitted as required by Paragraph 29.*

### **C. Long Term Evaluation and Construction Schedule**

**18. Treatment Plant Alternatives Submission – Completed.** See below.

**(a) Existing Plant Process Evaluation Report – Completed.** Report submitted to US DoJ, US EPA, and PA DEP on February 17, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the selected liquid and solids treatment technologies. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**(b) Evaluation of Treatment Alternatives Report** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 17, 2006 and formal presentation of the report and findings conducted at March 21<sup>st</sup> meeting. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the selected liquid and solids treatment technologies. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**19. Capital Improvements Plan** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 16, 2007. Preliminary costs for biological treatment and solids handling facilities were developed as part of the plant and treatment alternatives report. Common facilities including headworks facilities and disinfection alternatives are being evaluated that were not required for the treatment alternative report. During the fourth quarter, B&V finalized the disinfection alternatives report based upon the City's comments. Additionally, B&V is developing alternatives and cost estimates for wastewater routing between the 6<sup>th</sup> and Canal PS headworks and plant headworks as well as plant and pump station improvements required as a result with conservative cost estimates used for the submitted Capital Improvements Plan. Current evaluations and preliminary sizing may require minor refinement as flow projections are finalized with contributing municipalities, common facility evaluations are reviewed and approved, and construction staging and final site layout are determined. Some of these will occur upon selection of the WWTP design engineering team.

In the assessment of key processes for the Operations and Maintenance Plan, the City took action to eliminate bottlenecks and vulnerabilities as well as to evaluate and make cost-effective interim upgrades for performance improvements to the existing plant. This was previously submitted as part of the Operations and Maintenance Plan required by Paragraph 15. The City did this earlier than required as a perceived necessary step to ensure regulatory permit compliance until the construction and start-up of the new facilities. Additionally, the City continues to make improvements beyond the initial assessments as part of the continual reevaluation and optimization of the existing plant operations. This is ongoing with current update information noted above in Paragraph 15.

**20. Request for Proposals** – In Progress. The City issued a request for qualifications (RFQ) for the implementation of the selected treatment alternative to identify design firms to be invited to submit a proposal in response to the City's request for proposals (RFP). The City assembled a committee comprised of internal and external, technical and non-technical reviewers to review qualifications and proposals, to score and rank firms, and to make recommendations to the administration and Council for the selection of the WWTP design firm. The City received qualification statements from a total of nine potential design teams which the selection committee reduced to four firms to receive the RFP. On January 4, 2008, the City received one proposal from Black & Veatch for the WWTP design. Two of the four teams submitted written withdrawals stating their reasons for not continuing to prepare and submit a proposal for consideration while the fourth requested a meeting to discuss their concerns.

The City issued RFPs for WWTP project management and construction management during this quarter with proposals due April 15, 2008. The firm(s) are to be selected in time to provide input early in the design process to minimize constructability conflicts and concerns and to explore financing options.

**21. Permit Applications and Design** – The selection committee conducted an interview for the WWTP design on February 15, 2008 and Council awarded the \$12,954,355 contract to Black & Veatch on March 24, 2008. An advance notice to proceed was issued the following day so the preliminary engineering tasks could begin while the contract documents are finalized. A separate contract for the WWTP survey was awarded to Bursich Associates with the work commencing during the first quarter in advance of the design contract award. The City conducted a coordination meeting with the design and survey firms.

**22. Permitting** – Not applicable.

**23. Construction Completion** – No progress.

**24. Start-Up and Operation** – No progress.

#### **D. Collection System**

**25. GIS Mapping System** - In progress. See below.

(a) **Purpose of GIS System** - Not applicable.

(b) **GIS Mapping of the Sanitary Sewer Collection System** – In progress. The 2005 aerial photography of the collection system has been accepted following quality control checks by the City GIS Coordinator. With the assistance of City sewer team personnel, ATS Chester began field data collection in July, 2006. The initial phase for field data collection is the sanitary interceptors and force mains with phase two being the remaining sanitary structures. The GIS mapping follows each phase's data collection with submission to the City for review and approval. The City conducted meetings with ATS Chester staff to find ways to expedite the process. The City has dedicated staff to support investigation efforts as needs are communicated by ATS Chester. During this quarter and the previous quarter, ATS Chester made additional staffing changes to lead staff for the project. The City's GIS technician has been dedicated to performing data reviews and monitoring the quality of data submitted. As further support, the City requested that B&V provide additional review of data in order to determine if reliable information is available to execute the hydraulic model of the large diameter sanitary sewers. As of the end of the 4<sup>th</sup> quarter of 2007, acceptable GPS data had not yet been received. The City received several data submissions for review with the final submission for the quarter considered complete by ATS Chester. The City noted several substantial problems with the submission including incorrect pipe diameters. The City continues to move forward with B&V and Woolpert in order to continue with the required modeling and software implementation as much as practical given the status of the data collection. Concerns remain regarding Consent Decree deadlines and these concerns have been continually stressed to all parties involved. The City continues to make

every effort to move forward practically and efficiently as possible. *During this quarter, the City began discussing with Woolpert the possibility of performing the tasks assigned to ATS Chester due to delays and data quality concerns. They were made aware of the importance of these tasks due to impacts on Consent Decree deadlines for this and dependent tasks.*

**(c) GIS Mapping of the Storm Water Collection System** - In progress. The third phase for field data collection and GIS mapping is the storm water system. Many of the structures are collected while ATS Chester performs phases one and two data collection, however the GIS mapping for the sanitary system will precede the storm water system mapping. As the City had no electronic version of the storm water system, B&V developed a rough layout for use as a starting point in field data collection. With a storm water inspection that occurred as a result of the June 2006 flood, the City discovered that many storm system improvements constructed in the 1980's were not updated on the index map in use and digitized by B&V. City engineering personnel determined what improvements were not included and updated the paper mapping from which B&V updated the digitized index map for guidance.

## **26. Sanitary Sewer System Evaluation Program**

### **(a) I/I Analysis by Subsystem**

**1. Baseline Flow and Rainfall** – In Progress. The flow monitoring and data reduction have been completed by B&V for the I&I analysis. A draft report was submitted to the City for review and comment. Limited reliable data was available for the existing system and tributary populations. Draft prioritization of areas and predictions for peak flows were developed; however, data is being refined as new information is received. The hydraulic modeling of the interceptors is a key to re-evaluating priorities based on projected bottlenecks that may exist. The City has met with all of the satellite municipalities to gather information on current and future populations, I&I mitigation programs, and definition of tributary areas. In addition, the City has progressed with its program for data collection on the City's system through GPS mapping.

**2. Hydraulic Modeling** – In Progress. The City has reviewed its system configuration and limitations for consideration in the selection of a hydraulic model. Based on the complexity of the system, B&V recommended a dynamic model named InfoWorks. The ongoing GPS field investigations are being performed in stages with priority being placed on the sanitary sewer interceptors in order to facilitate the hydraulic modeling. Upon development of a satisfactory inventory of Phase 1 GPS data, B&V will begin setting up and calibrating the model. Data was received from the GPS consultant on December 24, 2007 which still contained numerous apparent inaccuracies including incorrect pipe diameters

which would negatively impact the hydraulic modeling. A detailed review of the data received was done to determine the extent of problems to be expected during the detailed hydraulic modeling. A test run of the hydraulic model with this data yielded 2700 errors which keep the model from running. In addition, there were 1800 warnings and 8800 information messages. This preliminary model run with the GPS data confirmed the concerns about the data quality. *The City has concerns about the schedule for completing the modeling based upon the ongoing issues with the quality of data received from the GPS field verification.*

**(b) Sewer System Evaluation Survey – In Progress.** The process for the SSES was initiated with the flow monitoring program for the I&I analysis. The City has worked with B&V to develop a manhole numbering system for the sanitary sewer system. A preliminary assignment of identifiers was made to manholes indicated on available historical mapping. The GPS contractor is currently performing field investigations which will be used to refine the system numbering and subsystem delineation and resolve discrepancies found between record drawings and the actual infrastructure in the field. Although not explicitly required within the Consent Decree, the City has engaged B&V to develop a maintenance, operation and management (MOM) plan for the collection system in order to help set priorities and standardize operations of City sewer crews. The MOM plan is intended to serve as a guide for the execution of the required SSES as well as ongoing future maintenance of the collection system. B&V has provided draft technical specifications for additional system evaluation to be conducted in accordance with the I&I report recommendations. The smoke testing and CCTV technical specifications are being reviewed and the appropriate boilerplate documents prepared to advertise the requests for proposals (RFP).

**27. Rehabilitation Plan – No progress.** *The SSES is required to commence by May 7, 2008 while the dependent rehabilitation plan is due prior to the study on which it is based.*

**28. Rehabilitation of Priority Areas of Collection System – No progress.**

**29. Wet Weather Operation Plan – Completed.** Plan submitted to US DoJ, US EPA, and PA DEP on May 7, 2007. *No comments to the Interim Wet Weather Operational Strategy submitted per Paragraph 17 above that were to be addressed in this submittal. The City awaits a response for the approval of the plan and its components listed as proposed.* The WWTP effluent pipe to the Schuylkill River and discharge options continue to be tested during subsequent extreme high flow events and be included in this plan. Standards operating procedures (SOPs) will be revised for use under adverse conditions.

#### **E. Pretreatment Program**

**30. General Duty – In progress.** The City has an approved pretreatment program and continues to regulate industrial users in the collection system.

**31. Enforcement Response Plan (ERP) Implementation** – In progress. The City continues to follow the ERP in order to encourage compliance from all industrial dischargers. This is reported directly to US EPA with the quarterly compliance reports.

**32. ERP - Penalty Escalation and Compliance Schedule** – In progress. The City has been escalating penalties for all industries that are in significant non-compliance for a given parameter for two consecutive quarters. This is reported directly with the quarterly industrial pretreatment status reports to US EPA. The City will continue with this reporting method for the future.

**33. ERP – Order, Permit Revocation, and Federal Referral** – In progress. The City continues escalating the enforcement actions focusing on the financial penalties assessed to permittees who remain in significant non-compliance. The City continues issuing penalties for compliance issues that were not fined previously such as pH, late reports, late sampling, and late permit applications.

**34. Local Limit Adoption by Contributing Municipalities** – In progress. Most of the municipalities have adopted the City's sewer use ordinance providing permitting and enforcement abilities for the City with industrial users. All the municipalities with permitted industries have adopted the ordinance. US EPA provided the status from the 2005 audit listing the municipalities requiring ordinance adoption. This has been discussed with solicitors and directly with individual municipalities in question. Electronic versions of the City's sewer use ordinance have been provided to each municipality, engineer, and/or solicitor to prepare for adoption. Little feedback has been received regarding questions or recent adoption but the authorities now understand that it must be completed by the municipality. The City has requested notification and proof of ordinance adoption be submitted. During the 1st quarter, the City began working directly with a municipality and their solicitor to adopt the City's sewer use ordinance as a result of an investigation regarding a user adversely impacting operations. Also, in preparing annual reports, the City became aware of a change in engineering support for an authority where both contributing municipalities have yet to adopt the ordinance. This requirement has been discussed with them and the electronic versions provided for their use.

**35. Non-Residential Connection Evaluation and Investigation** – In progress. The City has been working with the contributing municipalities to obtain information in order to send a survey to evaluate nonresidential users that may be subject to the pretreatment program. This has been requested among other submissions from individual municipalities. This was also discussed with the municipal meetings conducted in 2007. The initial survey and part of the user database has been developed and will be sent out by municipality in order to stagger the resultant workload of the evaluation and inspections that will result. The City will be requesting assistance from a consultant due to the large number of surveys and inspections required.

**36. Increased Monitoring for Violators** – In progress. The City continues to increase City sampling and self-monitoring for frequent violators. In general, permits may be amended or re-issued requiring multiple resamples for parameters with prior compliance issues. Some permits require increased frequency of

monitoring for multiple quarters of compliance prior to returning to a less frequent self-monitoring schedule. Additional monitoring by both the City and the industry is being tracked and reported to US EPA quarterly.

**37. Pretreatment Computerized Management System** - In progress and continuing. The City continues data entry into a commercial pretreatment database as well as an abbreviated spreadsheet upon receipt of analytical results from both City and industrial sampling.

**38. Local Limits Re-Evaluation** – Completed. Evaluation submitted to US DoJ and US EPA on May 5, 2006. Comments were received from US EPA and the City initially worked with B&V to address the comments and concerns. The City will be requesting assistance from a consultant to complete addressing the noted concerns due to timing.

**39. Quarterly SNC Reports to US EPA** – In progress. The City continues to provide quarterly SNC reports to US EPA.

#### **F. Funding**

**40. Funding** – In progress. The 2008 budget was prepared to be presented to City Council with \$750,000 less in the transfer from the sewer fund to the general fund than in 2007. For 2007, the budgeted transfer amount is \$3,750,000 with the 2008 budgeted transfer amount being \$3,000,000.

#### **IX. CIVIL PENALTY**

**47. and 49. Penalty Amount and Payment Instructions** – Completed.

## **X. SUPPLEMENTAL ENVIRONMENTAL PROJECTS: Angelica Stream Restoration**

### **52. Details of SEPs listed below**

- a) **Background** - Not applicable.
- b) **Goals of SEPs** - Not applicable.
- c) **Removal of excess sediment and soil stabilization SEP** – Completed.
- d) **Angelica Creek Restoration SEP** – Completed.
- e) **Angelica Creek Riparian Buffer SEP** – Completed.
- f) **Wetland Creation SEP** – Completed.
- g) **Flood plain Meadow SEP** – Completed.
- h) **Annual Maintenance and Access to SEPs** – No progress. To be done after construction is complete.
- i) **Design Costs and Final Plan** – Completed.
- j) **Defendant Certification** – Not applicable.
- k) **SEP Completion Report** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on January 30, 2008 as part of the 4<sup>th</sup> calendar quarterly progress report.

The final construction permits were received during September, 2006. The project was advertised for construction bids during October, 2006. Bids were opened and a contract was awarded to E. Kuser, Inc., 150 Grings Hill Road, Sinking Spring, PA 19608, in the amount of \$1,131,161.13.

At this point, only work described in Paragraph 53(h) remains to be completed. Specifically, signing and benches must be installed. Certain grasses and other plantings which did not take root when first planted must be replaced to completely stabilize the area during Spring, 2008.

An official opening of the SEP area of Angelica Park is planned for early Spring 2008. The educational community of Berks County is quite anxious for the park opening. The learning opportunities for the youth of Greater Reading are limitless.



## Additional Items related to Consent Decree

### Personnel

**Operator Certification** – The City administration supported management in both water and wastewater during AFSCME contract negotiations. The administration interpreted the new DEP certification regulation to compel certain rank and file AFSCME positions to obtain PA DEP operator certification. Personnel in those positions are given 24 months in which to pass the appropriate certification exams. New hires or transfers into operations are advised of the certification need initially and given materials to read and review as part of their orientation and training. Based on the AFSCME contract language, July 15, 2007 was the initial date for employees who were in operational positions 24 months ago to be required to be certified. From there, new employees' certification requirements are being tracked based on the position start date. The positions requiring certification are Fritz Island Operator (Plant Operator), Pump Tender, and Belt Filter Press Operator (Solids Operator). The first two positions each have four people to provide continual coverage while the last position currently has two people providing two shifts weekdays and weekend coverage as needed. The following table shows the certification status of the rank and file employees in the positions requiring certification.

Position	PA DEP Certification
Plant Operator - Day	A,E - 2,3,4
Plant Operator - Evening	A,E - 2,3,4
Plant Operator - Night	E - 4 Passed exam A - 2
Plant Operator - Rotating	Due by 10/22/2009
Pump Tender – Day	Due by 06/18/2009
Pump Tender - Evening	Due by 01/06/2009
Pump Tender - Night	Due by 09/04/2009
Pump Tender – Rotating	Due by 07/16/2009
Solids Operator - Day	A,E – 2,4
Solids Operator - Evening	Passed exam E-4. Due by 10/19/2008

### Operations and Maintenance

**19<sup>th</sup> Ward PS Overflow Monitoring** –The chart recorder is a daily chart per the recommendations of the hydraulic engineer studying the site. This is to enhance the ability to review pump operations during adverse conditions. Additionally, the secondary wet well level sensor that controls the pumps under high flow conditions has a separate chart recorder added for monitoring. This is being used to monitor the duration of any future overflows from this station. The system showed no overflows occurred during this quarter which was verified by operations staff performing routine inspections. This monitoring evaluation will continue as field-verified levels for potential overflows are determined.

**Computerized Maintenance Management System (CMMS) for Collection System**– To adequately perform and document an ongoing infiltration and inflow program, catalog televisual inspection, and track service calls and repairs in the

collection system, the City determined the need for a formal method to catalog the information. Geographical documentation of this information was the selected method for the database structure. The original intent was for the sanitary and storm sewer systems and the pump stations to switch to this software as fewer major changes are anticipated in the near future. Following the project kickoff, wastewater treatment determined it would be simpler to migrate from the existing CMMS software to the new software and have it debugged with personnel gaining experience prior to the new plant's construction. The City has been examining a static database of City information Woolpert has prepared for testing and training purposes.

Woolpert made modifications to incorporate the existing work order format, priority, and assignment. A different method of communication to City Hall servers is required to be implemented for communication speed improvements. Recurring safety and administrative functions are being incorporated into the existing CMMS and will be migrated into this software. Ultimately, this software is planned to be used in much of the Public Works Department.

**42" Force Main and WWTP Influent Routing**— Following the force main break discovered on January 10, 2008, a summary report in response to the PA DEP notice of violation for this January incident was sent to all parties identified in the Consent Decree. For this reason, this is not included in this quarterly report.

A meeting will be scheduled with a developer desiring to develop the riverfront area in Reading surrounding the Sixth and Canal pump station. Due to the impact on the WWTP design hydraulics, this must be addressed shortly so as to not impact the design and construction schedule for the WWTP.

### **Laboratory and Administration**

**Land and Building** – The City purchased a parcel of land in 2005 adjacent to the wastewater treatment plant to be used for the construction of a new building for the administration and the laboratory. The City purchased a second adjacent parcel in March 2007. On August 8, 2007, the City issued requests for proposals (RFPs) to perform a feasibility study and property survey for the proposed building needs, layout, and site work. Proposals have been received and were reviewed. During this quarter, successful firms completed the work according to their contracts and submitted final documents as required. The City intends to have the contracts for architectural services for building design and construction as well as the engineering services for land development and construction in place shortly. The City desires the land development plans to be submitted to the Township for review early in 2008.

**Laboratory Accreditation Audit** –The City laboratory was audited by PA DEP on November 19, 2007. The City received verbal notification and a letter detailing audit findings which included three minor comments. The City addressed these issues and received notice and certificate of accreditation on January 10, 2008 effective through January 31, 2009.

### **Administrative**

**Contributing Municipalities** - The City and B&V met individually with the municipalities that contribute flows to the City's wastewater system and plant. The purpose was to provide background information and the City's current status

including technical information related to the Consent Decree requirements. Also, the City wanted to obtain current status of flow projections and I&I reduction efforts. Some municipalities and authorities had their own staff or officials in addition to the appropriate engineers. In addition to the Consent Decree requirements for plant upgrades and system projects, the need for municipal adoption of the City's sewer use ordinance was discussed as well as the need for ongoing communication regarding non-residential customers both being related to the industrial pretreatment program. Finally, the process to be followed when planning for new development and the use of PA DEP planning modules were discussed as well. Intermunicipal agreements are being reviewed briefly as they are a shorter duration than what is used for planning purposes for the capital improvements plan. Field meetings are being planned for the spring of 2008 to inspect each connection point and terminal pumping stations to the City system as well as available mapping for the system.

**Funding** - Since the internal City customers' sewer bills are dependent upon the metered water consumption, City Council discussed an independent utility analysis of both the wastewater and water utility funds and inter-related financial operations due to the significant implications. A separate committee was formed to interface, develop a scope for the study, and select a consultant to perform this audit and analysis which will provide the City with the best long-term financial solution and ability to evaluate budgetary impacts. There has been no action with this committee.

**Response Times and Clarifications** – The City continues to work in good faith on compliance issues outlined within the Consent Decree. There is concern regarding delays in regulatory responses for questions posed during meetings or within progress reports. The City has not received responses to questions posed during the March 2006 meeting or the July 2006 teleconference or plans and reports submitted subsequent to that meeting. As investigative field work in the collection system intensifies, previously identified concerns regarding timeline discrepancies within the Consent Decree become more evident. Clarification will be critical to allow the City to balance the allocation of resources in efforts to maintain compliance. The City would like the opportunity to meet and discuss proposed schedule revisions. This is a critical issue as the rehabilitation plan was due on January 15, 2008 which is prior to the commencement of the investigative work on which it is based.

**NPDES Permit Limits** – The NPDES permit renewal has not been received despite the permit expiration on May 1, 2006. Draft limits by one MGD increments have been provided for design purposes but a draft permit has not been received to date. During the discussion following the application, the reduction of permit limits by PA DEP seemed to be a forgone conclusion despite having a Consent Decree report stating the existing plant is unable to meet the limits consistently. The City would propose the concept of an extension of existing permit limits or interim limits during the construction phase until the new facilities are on-line.

**Air Quality Permit Receipt** – During June, the City received an air quality permit from PA DEP containing essentially the same areas of concern that had been discussed in a November 2005 meeting. At that meeting PA DEP had suggested they would pursue a Consent Order related to air quality to which the City explained that the Consent Decree addressed the WWTP as a whole and air quality and odor controls would be designed as integral components of the facility. The City provided

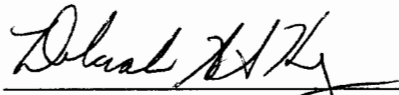
the additional data requested by PA DEP. In addition, the City has made several process improvements in the form of automation but has not heard from PA DEP regarding some major concerns from the November 2005 meeting until the receipt of this permit. The City formally appealed the permit issuance and contents to the Environmental Hearing Board as is the process dictated in these circumstances. A meeting with PA DEP occurred in October 2007 in order to discuss the appeal and pending air quality permit. In response to that meeting, the City submitted best management practices for the waste gas flare that DEP wants to include in the permit. The City received a draft permit for review and comment, and PA DEP issued the revised permit effective February 29, 2008 .

## **VI. REPORTING REQUIREMENTS**

### **41. Report Contents and Certification**

- (a) **Remedial Measures Paragraphs 7 through 40** – See above numbered sections.
- (b) **Anticipated Problems** – See italics in above numbered sections.
- (c) **Additional Matters** – See italics in above unnumbered sections.
- (d) **Certification Statement** –

I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my directions and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, the information submitted, is to the best of my knowledge and belief, true, accurate, and complete.



Deborah A.S. Hoag, P.E.  
Utilities Division Manager

04/30/2008  
Date



## CITY OF READING, PENNSYLVANIA

ENVIRONMENTAL DIVISION  
815 WASHINGTON STREET  
READING, PA 19601-3690

PUBLIC WORKS  
DEPARTMENT

July 30, 2008

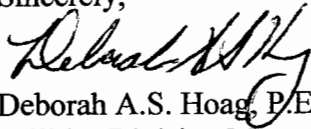
Ms. Margaret L. Hutchinson, Esq.  
Assistant United States Attorney  
Civil Division Eastern District of Pennsylvania  
615 Chestnut Street  
Suite 1250  
Philadelphia, PA 19106-4476

Re: City of Reading Consent Decree  
Calendar Quarterly Progress Report  
2<sup>nd</sup> Quarter 2008

Dear Ms. Hutchinson:

In accordance with Section VI Reporting Requirements, Paragraph 41, you will find enclosed the City of Reading's Calendar Quarterly Report. This documents progress and status on the implementation of Section V Remedial Measures described in Paragraphs 7 through 40. Additionally, an update on penalty payment and the Angelica Stream Restoration SEP is included. Please feel free to contact me at 610-655-6258 should you have any comments or questions.

Sincerely,



Deborah A.S. Hoag, P.E.  
Utilities Division Manager

DH/eh

Cc: ✓ Christopher A. Day, Esq., US EPA  
Lisa Trakis, US EPA  
Lee McDonnell, PA DEP  
Shawn Arbaugh, PA DEP  
Charles M. Jones, P.E., Director of Public Works  
Ralph E. Johnson, Superintendent  
Stephen K. Hydro, P.E., Black & Veatch  
David A. Binder, Esq., Legal Counsel  
Keith Mooney, Esq., Legal Counsel  
file



**City of Reading Consent Decree  
Calendar Quarterly Progress Report  
Period Ending June 30, 2008**

**V. REMEDIAL MEASURES**

**A. General Duties**

- 7. Duty to Comply with Permit** – In progress. The City's wastewater treatment plant had no NPDES permit violations during this quarter. The WWTP staff worked diligently during April and May to prepare for summer permit limits when a monthly concentration ammonia violation appeared unavoidable. Through a concerted research and troubleshooting effort, teamwork, and communication, the facility was in compliance for the month.
- 8. Operation and Maintenance of the Facility** – In progress. The City continues work formalizing and documenting the operational and maintenance procedures related to the treatment plant, pump stations, collection system, and laboratory.

**B. Interim Measures**

**9. Interim Compliance – Environmental Management System**

- (a) Submission** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on May 5, 2006. *The City awaits a response for the approval of the system and its components listed below as proposed.*
- (b) Maintenance Management System** - Continuing progress. The City continues the planned implementation of improved and expanded use of the Antero computerized maintenance management system. This ongoing increased use of the maintenance management system includes recurring work orders for maintenance upon discovery of the unaddressed cause of any problem. The use of this system is treated as an ongoing tool for the facilities' operations and maintenance. The wastewater treatment plant will migrate to the new CMMS being developed for the collection system due to the interrelated operations and maintenance activities.
- (c) Supervisory Control and Data Acquisition (SCADA) system**
- 1. Interim SCADA System** – Completed and certified.
  - 2. Upgrades to SCADA System** – Not applicable. Upgrades not required based upon the submission and approval of paragraph 18. While not required by the Decree, the City continues progress with this operational tool in planning for the future plant improvements and ensuring operational consistency. Black & Veatch (B&V) has been retained to oversee the SCADA development for consistency and the development of standards and conventions for future use in the plant upgrades. Additional operational parameters continue to be added to the SCADA system. Select existing screens have been modified for operational and visual consistency and modifications to additional screens are planned. During this quarter, the focus involved evaluating automation changes on plant operations for process control. A process

control limitation was discovered with the tertiary aeration drain valve programming that was evaluated. Also, preparations were made with the handling of historical data to be able to produce meaningful standardized reports. B&V will be on-site during the third quarter to make these modifications. Finally, options to utilize the SCADA system as a reference tool have been instituted such as for non-routine conditions such as emergency power utilization and equipment restart.

**(d) Pretreatment Data Management System** – Continuing progress. The City continues the ongoing data entry into a commercial pretreatment database as well as an abbreviated spreadsheet as analytical results are received from both City sampling and industry self-monitoring.

**10. Interim Plant Influent Monitoring** – Completed and continuing as required.

**11. Interim Trickling Filter Performance Measures** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on February 17, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the request to change sampling locations for trickling filter continuing monitoring. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**(a) Performance Improvements** – Completed and ongoing as part of the Operations and Maintenance plan using the Computerized Maintenance Management System.

**(b) Unit Efficiency Monitoring Recirculation Rate** – Completed.

**(c) Recirculation Rate** - Completed with flow monitoring continuing for the primary recirculation. The chart recorder and totalizer were replaced to alleviate vendor delays as discussed in past reports. Since the identification of available piping, secondary trickling filter recirculation has been in continual use. The secondary recirculation was increased approximately 50% with marked improvements in the biological growth noted. City staff has made physical modifications to improve the flow metering for the secondary recirculation rate.

**(d) Longer Term Monitoring and Reporting** – Completed and continuing with modified locations as approved.

**12. Process Control Testing** – Completed and continuing as required. Plan submitted to US DoJ, US EPA, and PA DEP on February 7, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the request to change sampling locations for treatment units' continuing monitoring. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**13. Dangerous Gas Detection** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on February 7, 2006. Inspection and calibration are being done routinely and repairs are made when noted upon inspection.

**14. Certified Plant Operators** – The City currently has six shift supervisors who are assigned in categories as follows: day, evening, night, and rotating shifts, operational maintenance, and administrative. The supervisors began continuous coverage on November 1, 2006 as scheduled. To ease the tracking of licensed employees for the facility, a table has been developed for the facility's shift supervisors, and related City management staff. The facility currently requires a

PA DEP Class A-2 for the plant and an E-4 for the collection system. These dual certification requirements have been extended to appropriate plant staff as they are also responsible for the pump station in the collection system. Shift supervisors, by virtue of their written job description, are required to pass the appropriate certification examination within twelve (12) months of hire or promotion into the position and all have done so. Most of the shift supervisors are new to the wastewater field. As a result, they are required to obtain the requisite operating experience prior to being issued their certification.

Employee	Title	PA DEP Certification
Charles M. Jones, P. E.	Director of Public Works	A,E – 1,2,3,4
Deborah A. S. Hoag, P. E.	Utilities Division Manager	A,E – 1,2,3,4
Ralph E. Johnson	Wastewater Superintendent	A,E – 1,2,3,4
Roger D. Hillibush	Operations Supervisor	A,E – 1,2,3,4
Russell L. Stoudt	Maintenance Supervisor	A,E – 1,2,3,4
Jackie C. Hendricks	Environmental Program Coordinator	A,E – 2,3,4
Amy L. Morriss	Laboratory Supervisor	A,E – 1,2,3,4
Gregory R. Fetter	Shift Supervisor – Operational Maintenance	A,E – 1,2,3,4
Robert E. Gensemer	Shift Supervisor - Administrative	E - 4 Passed exam A - 2
George E. Fultz, II	Shift Supervisor – Day	B,E – 2,4 Passed exam A
Felix V. Stacherski	Shift Supervisor – Evening	A,E – 2,4
Jeffrey Hunt	Shift Supervisor – Night	A,E – 2,4
Daniel J. Dixon	Shift Supervisor – Rotating	A,E – 2,4

The selected treatment alternative, as approved under Paragraph 18, requires an A-1 certification which is not currently required for the existing treatment plant. Most of the managers already possess this certification and some of the shift supervisors are planning to take the activated sludge module in advance of the construction to be prepared for the plant's transition from trickling filters to activated sludge. Additionally, the City has been discussing flexibility with the certification wording with the AFSCME local representing first level supervisors so that changes in technology or certification requirements do not require additional contract negotiations. *As discussed in the March 21, 2006 meeting (and the July 10<sup>th</sup> telephone conference), the new supervisory employees do not have specific wastewater experience prior to their hire but are required to pass the certification exam within twelve months of hire. PA DEP certification experience and training requirements do not allow the issuance of the operator certification based solely on the passing of the examination. Alternate language was proposed due to the difficulty recruiting already certified personnel to fill these positions and the timing required to obtain certification to provide the level of staffing required. The City suggests changing from "individual shall be required to obtain certification within 12 months of the date of hire" to "individual shall be required to pass the certification examination within 12 months of the date of hire" While this is no longer an issue with the current supervisors, the City still awaits the formal response regarding the proposed alternate language in the event of a change in personnel.*



**15. Operations and Maintenance Plan - Completed.** Plan submitted to US DoJ, US EPA, and PA DEP on May 5, 2006. *The City awaits a response for the approval of the plan and its components listed as proposed.* Progress continues with future planned activities as discussed in the submitted plan. In the assessment of key processes, the City took action to eliminate bottlenecks and vulnerabilities to improve the performance of the existing plant. This was done as a necessary step to ensure regulatory permit compliance until the construction and start-up of the new facilities. These are the interim improvements required in the Capital Improvements Plan. The City continues to make additional improvements beyond the initial assessments as part of the continual reevaluation and optimization of plant operations. During this quarter, the digestion portion of the solids handling process was a prime focus as repairs are made to a primary digester. The preliminary testing was successful. We still await the receipt for installation of key operational components required prior to the digester's second operational testing and return to service. The other area of focus was the liquid treatment specifically the ammonia summer permit limits. During April, preparations started for the change in permit limits to the lower summer levels. This included consulting with a micro-life biologist and performing Internet research on the operational challenges to be addressed. Research revealed that the Truckee Meadows WWTP in Reno, NV had similar problems with snail infestation that were successfully handled. They provided insightful recommendations for our staff to implement in order to meet the May ammonia limit. Trials have started based upon long-term recommendations that were received as well.

**16. Staffing Plan – Completed.** Plan submitted to US DoJ, US EPA, and PA DEP on November 30, 2005.

**17. Interim Wet Weather Operational Strategy - Completed.** Plan submitted to US DoJ, US EPA, and PA DEP on November 7, 2006. Response received from US DoJ and EPA on May 9, 2008 approving the submission with notations about overflows and bypass relief points. Separate response received from PA DEP on May 9, 2008 approving the submission.

### **C. Long Term Evaluation and Construction Schedule**

**18. Treatment Plant Alternatives Submission – Completed.** See below.

**(a) Existing Plant Process Evaluation Report – Completed.** Report submitted to US DoJ, US EPA, and PA DEP on February 17, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the selected liquid and solids treatment technologies. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**(b) Evaluation of Treatment Alternatives Report – Completed.** Report submitted to US DoJ, US EPA, and PA DEP on February 17, 2006 and formal presentation of the report and findings conducted at March 21<sup>st</sup> meeting. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the selected liquid and solids treatment

technologies. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**19. Capital Improvements Plan** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 16, 2007. Preliminary costs for biological treatment and solids handling facilities were developed as part of the plant and treatment alternatives report. Common facilities including headworks facilities, clarification, and disinfection are being included that were not required for the treatment alternative report. B&V is developing alternatives and cost estimates for wastewater routing between the 6<sup>th</sup> and Canal PS headworks and plant headworks as well as plant and pump station improvements required as a result with conservative cost estimates used for the submitted Capital Improvements Plan.

In the assessment of key processes for the Operations and Maintenance Plan, the City took action to eliminate bottlenecks and vulnerabilities as well as to evaluate and make cost-effective interim upgrades for performance improvements to the existing plant. This was previously submitted as part of the Operations and Maintenance Plan required by Paragraph 15. The City did this earlier than required as a perceived necessary step to ensure regulatory permit compliance until the construction and start-up of the new facilities. Additionally, the City continues to make improvements beyond the initial assessments as part of the continual reevaluation and optimization of the existing plant operations. This is ongoing with current update information noted above in Paragraph 15.

**20. Request for Proposals** – Completed. The City issued a request for qualifications (RFQ) for the implementation of the selected treatment alternative to identify design firms to be invited to submit a proposal in response to the City's request for proposals (RFP). The City assembled a committee comprised of internal and external, technical and non-technical reviewers to review qualifications and proposals, to score and rank firms, and to make recommendations to the administration and Council for the selection of the WWTP design firm. The selection committee conducted an interview for the WWTP design on February 15, 2008 and Council awarded the \$12,954,355 contract to Black & Veatch on March 24, 2008. The final contract was executed on June 23, 2008 with a retroactive effective date of March 25, 2008.

The City received RFPs for WWTP upgrades project management and construction management on April 15, 2008. Five teams submitted proposals which were evaluated by the same selection committee as the WWTP design. Three firms were interviewed with an award recommendation to City Council in June. While there were numerous discussions with Council about the topic, no contract award was made during this quarter. The goal is to have the team engaged in time to provide input early in the design process to minimize constructability conflicts and concerns and to explore financing and funding options.

**21. Permit Applications and Design** –Ongoing. A summary of the progress reports received from B&V for the WWTP design preliminary engineering performed this quarter is attached.

A separate contract for the WWTP survey was awarded to Bursich Associates with the work commencing during the first quarter in advance of the design contract award. The City conducted a coordination meeting with the design and survey firms and the firms have been communicating directly to achieve the deadline goals since then.

**22. Permitting** – Not applicable.

**23. Construction Completion** – No progress.

**24. Start-Up and Operation** – No progress.

#### **D. Collection System**

**25. GIS Mapping System** - In progress. See below.

(a) **Purpose of GIS System** - Not applicable.

(b) **GIS Mapping of the Sanitary Sewer Collection System** – In progress. The 2005 aerial photography of the collection system has been accepted following quality control checks by the City GIS Coordinator. With the assistance of City sewer team personnel, ATS Chester began field data collection in July, 2006. The initial phase for field data collection is the sanitary interceptors and force mains with phase two being the remaining sanitary structures. The GIS mapping follows each phase's data collection with submission to the City for review and approval. This quarter, the City met with ATS Chester to notify them that their services are no longer desired and the City will be preparing another GPS RFP. During this quarter, the City also began updating the technical specifications in the prior RFP in preparation to issuing a new RFP for these services.

(c) **GIS Mapping of the Storm Water Collection System** - In progress. The third phase for field data collection and GIS mapping is the storm water system. Many of the structures were collected while ATS Chester performed phases one and two data collection, however since the GIS mapping for the sanitary system precedes the storm water system mapping, this is not available in final form from ATS Chester's work. This will be included in the new GPS RFP discussed above.

#### **26. Sanitary Sewer System Evaluation Program**

##### **(a) I/I Analysis by Subsystem**

**1. Baseline Flow and Rainfall** – In Progress. The flow monitoring and data reduction have been completed by B&V for the I&I analysis. A draft report was submitted to the City for review and comment. Limited reliable data was available for the existing system and tributary populations. Draft prioritization of areas and predictions for peak flows were developed; however, data is being refined as new information is received. The hydraulic modeling of the interceptors is a key to re-evaluating priorities based on projected bottlenecks that may exist. The City has met with all of the satellite municipalities to gather information on current and future populations, I&I mitigation programs, and definition of tributary areas. In addition, the City has progressed

with its program for data collection on the City's system through GPS mapping.

**2. Hydraulic Modeling – In Progress.** The City has reviewed its system configuration and limitations for consideration in the selection of a hydraulic model. Based on the complexity of the system, B&V recommended a dynamic model named InfoWorks. The ongoing GPS field investigations are being performed in stages with priority being placed on the sanitary sewer interceptors in order to facilitate the hydraulic modeling. Upon development of a satisfactory inventory of Phase 1 GPS data, B&V will begin setting up and calibrating the model. Data was received from the GPS consultant on December 24, 2007 which still contained numerous apparent inaccuracies including incorrect pipe diameters which would negatively impact the hydraulic modeling. A detailed review of the data received was done to determine the extent of problems to be expected during the detailed hydraulic modeling. A test run of the hydraulic model with this data yielded 2700 errors which keep the model from running. In addition, there were 1800 warnings and 8800 information messages. This preliminary model run with the GPS data confirmed the concerns about the data quality. *The City has concerns about the schedule for completing the modeling based upon the ongoing issues with the quality of data received from the GPS field verification. This task is dependent upon the revised GPS RFP discussed above.*

**(b) Sewer System Evaluation Survey – In Progress.** The process for the SSES was initiated with the flow monitoring program for the I&I analysis. The City has worked with B&V to develop a manhole numbering system for the sanitary sewer system. A preliminary assignment of identifiers was made to manholes indicated on available historical mapping. The GPS contractor is currently performing field investigations which will be used to refine the system numbering and subsystem delineation and resolve discrepancies found between record drawings and the actual infrastructure in the field. Although not explicitly required within the Consent Decree, the City has engaged B&V to develop a maintenance, operation and management (MOM) plan for the collection system in order to help set priorities and standardize operations of City sewer crews. The MOM plan is intended to serve as a guide for the execution of the required SSES as well as ongoing future maintenance of the collection system. B&V has provided draft technical specifications for additional system evaluation to be conducted in accordance with the I&I report recommendations. The smoke testing RFP is finalized for advertisement early in the third quarter. Also, the accompanying map and summary spreadsheet showing the areas to be tested is being verified for accuracy compared to the I&I report..

**27. Rehabilitation Plan – No progress.** *The SSES is required to commence by May 7, 2008 while the dependent rehabilitation plan is due prior to the study on which it is based.*

- 28. Rehabilitation of Priority Areas of Collection System** – No progress.
- 29. Wet Weather Operation Plan** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on May 7, 2007. Response received from US DoJ and EPA on May 9, 2008 approving the submission with notations about overflows and bypass relief points. Separate response received from PA DEP on May 9, 2008 approving the submission.

#### **E. Pretreatment Program**

- 30. General Duty** – In progress. The City has an approved pretreatment program and continues to regulate industrial users in the collection system.
- 31. Enforcement Response Plan (ERP) Implementation** – In progress. The City continues to follow the ERP in order to encourage compliance from all industrial dischargers. This is reported directly to US EPA with the quarterly compliance reports.
- 32. ERP - Penalty Escalation and Compliance Schedule** – In progress. The City has been escalating penalties for all industries that are in significant non-compliance for a given parameter for two consecutive quarters. This is reported directly with the quarterly industrial pretreatment status reports to US EPA. The City will continue with this reporting method for the future.
- 33. ERP – Order, Permit Revocation, and Federal Referral** – In progress. The City continues escalating the enforcement actions focusing on the financial penalties assessed to permittees who remain in significant non-compliance. The City continues issuing penalties for compliance issues that were not fined previously such as pH, late reports, late sampling, and late permit applications.
- 34. Local Limit Adoption by Contributing Municipalities** – In progress. Most of the municipalities have adopted the City's sewer use ordinance providing permitting and enforcement abilities for the City with industrial users. All the municipalities with permitted industries have adopted the ordinance. US EPA provided the status from the 2005 audit listing the municipalities requiring ordinance adoption. This has been discussed with solicitors and directly with individual municipalities in question. Electronic versions of the City's sewer use ordinance have been provided to each municipality, engineer, and/or solicitor to prepare for adoption. The City has requested notification and proof of ordinance adoption be submitted. During the first quarter, the City began working directly with a municipality and their solicitor to adopt the City's sewer use ordinance as a result of an investigation regarding a user adversely impacting system operations. Also, in preparing annual reports, the City became aware of a change in engineering support for an authority where both contributing municipalities have yet to adopt the ordinance. This requirement has been discussed with them and the electronic versions provided for their use. To date, neither has submitted proof of formally adopted the ordinance as requested.
- 35. Non-Residential Connection Evaluation and Investigation** – In progress. The City has been working with the contributing municipalities to obtain information in order to send a survey to evaluate nonresidential users that may be subject to the pretreatment program. This has been requested among other submissions from individual municipalities. This was also discussed with the

municipal meetings conducted in 2007 and municipal field meetings conducted in 2008. The initial survey and part of the user database has been developed and will be sent out by municipality in order to stagger the resultant workload of the evaluation and inspections that will result. The City will be requesting assistance from a consultant due to the large number of surveys and inspections required. The technical specifications for this RFP are under development.

**36. Increased Monitoring for Violators** – In progress. The City continues to increase City sampling and self-monitoring for frequent violators. In general, permits may be amended or re-issued requiring multiple resamples for parameters with prior compliance issues. Some permits require increased frequency of monitoring for multiple quarters of compliance prior to returning to a less frequent self-monitoring schedule. Additional monitoring by both the City and the industry is being tracked and reported to US EPA quarterly.

**37. Pretreatment Computerized Management System** - In progress and continuing. The City continues data entry into a commercial pretreatment database as well as an abbreviated spreadsheet upon receipt of analytical results from both City and industrial sampling.

**38. Local Limits Re-Evaluation** – Completed. Evaluation submitted to US DoJ and US EPA on May 5, 2006. Comments were received from US EPA and the City initially worked with B&V to address the comments and concerns. The City will be requesting assistance from a consultant to complete addressing the noted concerns due to timing. The technical specifications for this RFP are under development.

**39. Quarterly SNC Reports to US EPA** – In progress. The City continues to provide quarterly SNC reports to US EPA.

#### **F. Funding**

**40. Funding** – In progress. The 2008 budget was prepared to be presented to City Council with \$750,000 less in the transfer from the sewer fund to the general fund than in 2007. For 2007, the budgeted transfer amount is \$3,750,000 with the 2008 budgeted transfer amount being \$3,000,000.

#### **IX. CIVIL PENALTY**

**47. and 49. Penalty Amount and Payment Instructions** – Completed.

## **X. SUPPLEMENTAL ENVIRONMENTAL PROJECTS: Angelica Stream Restoration**

### **52. Details of SEPs listed below**

- a) **Background** - Not applicable.
- b) **Goals of SEPs** - Not applicable.
- c) **Removal of excess sediment and soil stabilization SEP** – Completed.
- d) **Angelica Creek Restoration SEP** – Completed.
- e) **Angelica Creek Riparian Buffer SEP** – Completed.
- f) **Wetland Creation SEP** – Completed.
- g) **Flood plain Meadow SEP** – Completed.
- h) **Annual Maintenance and Access to SEPs – Ongoing.** Seasonal maintenance and mowing has begun.
- i) **Design Costs and Final Plan** – Completed.
- j) **Defendant Certification** – Not applicable.
- k) **SEP Completion Report** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on January 30, 2008 as part of the 4<sup>th</sup> calendar quarterly progress report.

The final construction permits were received during September, 2006. The project was advertised for construction bids during October, 2006. Bids were opened and a contract was awarded to E. Kuser, Inc., 150 Grings Hill Road, Sinking Spring, PA 19608, in the amount of \$1,131,161.13.

At this point, only work described in Paragraph 53(h) remains to be completed. Specifically, signing and benches are scheduled to be installed early in the third quarter when punch list items are addressed. Plans are being made for the ribbon cutting ceremony on July 28<sup>th</sup>. Seasonal maintenance and mowing will continue to be ongoing.

# **Black & Veatch WWTP Design Engineering Progress Report**

## **Project Planning**

- Coordinated with City on notice to proceed / contract award.
- Set-up project document controls (Cygnet).
- Met with subconsultants to review scope of work.
- Reviewed permitting requirements.
- Began development of project schedule.
- Attended PM / CM pre-bid.
- Began development of project staffing plan in coordination with project schedule.
- Began initial administrative set-up of project
- Prepared Agreement for Engineering Services that included the detailed project scope of services.
- Conducted project initiation meeting with the City on April 22, 2008.
- Continued development of resource loaded project schedule.
- Continued development of work plan and coordination of design managers.
- Continued planning for overall design requirements including oil and grease receiving facilities, digester gas cogeneration facilities, and maintenance building requirements.
- Continued planning activities for virtual design modeling.
- Continued review of potential impacts of Riverview development on plant design.
- Initiated hydraulic profile development for existing and proposed facilities.
- Initiated review of equipment manufactures.
- Reviewed firing range RFP as related to WWTP design.
- Reproduced City record drawings and provided disks with files to the City.

## **Permitting**

- Organized forms required for permit submissions to PADEP.
- Conducted project kickoff meeting with PADEP officials and City staff.
- Continued review of overall permitting requirements.
- Developed forms for initial PNDI search.
- Coordinated permitting activities with PADEP and City staff.
- Reviewed submittal and data requirements for construction permit submission.
- Reviewed requirements of DRBC for the project.
- Reviewed data for PHMC submittal requirements.

## **Treatment Compatibility Testing**

- Developed protocols and began planning for testing.
- Reviewed equipment requirements for bench scale testing.
- Purchased bench scale testing equipment.
- Constructed bench scale pilot testing units.
- Made arrangements to acquire seed sludge for testing.
- Developed sampling, shipping, and testing protocols for City wastewater.
- Began receiving wastewater from the Fritz Island WWTP and began operation of the pilot testing unit.
- Continued to receive wastewater from the Fritz Island WWTP and operate the pilot testing unit.



#### Site Investigations

- Met with third-party surveyor retained by the City to discuss the work.
- Reviewed and discussed initial formatting data formatting with the surveyor.
- Met on site with the geotechnical subconsultant to review the work.
- Reviewed available mapping for development of boring plan.
- Developed a phased approach for the geotechnical soil borings.
- Reviewed subconsultant tasks for wetlands investigations.
- Collected existing WWTP drawings from the City.
- Reviewed quality of surveyor submission to City and provided comments on additional information needed for design.
- Met on site with the geotechnical subconsultant to review the work.
- Researched and reviewed available information on the historic mining on the plant site.
- On site meeting with surveyor to review treatment processes and data needs.
- Review of drawing submittals by surveyor.
- Development of comment lists for surveying data deficiencies.
- Coordination of surveying status with City staff for invoice reviews.
- Review of subconsultant tasks.
- Completion of wetland investigations.
- Continued to review surveying data provided by surveyor contracted by City and provide comments and requests for additional information necessary for design.

#### Geotechnical Services

- Continued development of geotechnical investigation plan.
- Reviewed historical data/literature for old mine on plant site.
- Developed subconsultant scope of work and coordination of activities based on delays in the design contract review by the City.

#### Process Design Criteria

- Collected most recent WWTP operating data and began development of influent flow and load projections.
- Reviewed and analyzed influent loading data.
- Developed flow and load projections for the interim and final designs.
- Developed influent load model.
- Computed process treatment unit capacities.
- Developed preliminary solids quantities.
- Developed plant wide mass balance model to refine solids projections and ammonia balance.
- Developed process design criteria for Phase 1 design.
- Developed flow schematics and site plan for Phase 1 design.
- Developed process design criteria for Phase 2 design.
- Developed flow schematics and site plans for Phase 2 design.
- Prepared and submitted draft Technical Memorandum #2 – Process Design Criteria.

#### Preliminary Engineering Report

- Prepared preliminary site layout with proposed facilities.
- Continued development of the hydraulic profile for interim and final designs.
- Began development of process flow diagrams for:
  - Digester sludge heating and mixing
  - Digester gas
  - Dewatering
- Continued to develop the preliminary site plan.
- Began development of P&IDs for several of the process systems.
- Continued to develop construction sequence plan.

#### Oil and Grease Receiving and Processing Facilities Evaluation

- Researched FOG haulers and waste acceptors in the Reading area.
- Began sizing the FOG facilities.
- Developed FOG quantity projections for the Berks County Area.
- Developed preliminary sizing of FOG receiving facility based on quantity projections.
- Developed gas projections from FOG.
- Developed capital and O&M costs for FOG receiving facility.
- Worked on draft Technical Memorandum #3 – Oil and Grease Receiving and Processing Facilities Evaluation.

#### Digester Gas and Sustainability Feasibility Analysis

- Developed biogas utilization options.
- Developed projected biogas production.
- Developed energy recovery estimates for the utilization options.
- Developed capital and O&M costs and benefits for the biogas utilization options.
- Worked on draft Technical Memorandum #4 – Digester Gas and Sustainability Feasibility Analysis.

#### SCADA Review

- Began SCADA system and software evaluation.

## **Additional Items related to Consent Decree**

### **Personnel**

**Operator Certification** – In 2005, the City administration supported management in both water and wastewater during AFSCME contract negotiations. The administration interpreted the new DEP certification regulation to compel certain rank and file AFSCME positions to obtain PA DEP operator certification. Personnel in those positions are given 24 months in which to pass the appropriate certification exams. New hires or transfers into operations are advised of the certification need initially and given materials to read and review as part of their orientation and training. Based on the AFSCME contract language, July 15, 2007 was the initial date for employees who were in operational positions 24 months ago to be required to be certified. From there, new employees' certification requirements are being tracked based on the position start date. The positions requiring certification are Fritz Island Operator (Plant Operator), Pump Tender, and Belt Filter Press Operator (Solids Operator). The first two positions each have four people to provide continual coverage while the last position currently has two people providing two shifts weekdays and weekend coverage as needed. The new AFSCME contract allows some additional flexibility related to uncontrollable changes in certification requirements due to process changes or regulatory changes. The following table shows the certification status of the rank and file employees in the positions requiring certification. This quarter seven rank and file employees sat for the certification examination. Two are awaiting the certification board meeting to review their qualifications and vote on their certification.

<b>Position</b>	<b>PA DEP Certification</b>
Plant Operator - Day	A,E - 2,3,4
Plant Operator - Evening	A,E - 2,3,4
Plant Operator - Night	E - 4 Passed exam A – 2
Plant Operator - Rotating	Passed exam E -4 Due by 10/22/2009
Pump Tender – Day	Passed exam E – 4 Due by 06/18/2009
Pump Tender - Evening	Passed exam A,E -2,4 Awaiting Board
Pump Tender - Night	Passed exam E – 4 Due by 09/04/2009
Pump Tender – Rotating	Passed exam E – 4 Due by 07/16/2009
Solids Operator - Day	A,E – 2,4
Solids Operator - Evening	Passed exam A,E – 2,4 Awaiting Board

### **Operations and Maintenance**

**19<sup>th</sup> Ward PS Overflow Monitoring** –The chart recorder is a daily chart per the recommendations of the hydraulic engineer studying the site. This is to enhance the ability to review pump operations during adverse conditions. Additionally, the secondary wet well level sensor that controls the pumps under high flow conditions has a separate chart recorder added for monitoring. This is being used to monitor the duration of any future overflows from this station. The system showed no overflows occurred during this quarter which was verified by operations staff performing

routine inspections. This monitoring evaluation will continue as field-verified levels for potential overflows are determined. This quarter, oil and grease problems were experienced which are being investigated by plant, system, and pretreatment personnel as well as the contributory municipalities. A coordinated sampling effort and video monitoring are being discussed to determine the source of the problem.

**Computerized Maintenance Management System (CMMS) for Collection System**— To adequately perform and document an ongoing infiltration and inflow program, catalog televisual inspection, and track service calls and repairs in the collection system, the City determined the need for a formal method to catalog the information. Geographical documentation of this information was the selected method for the database structure. The original intent was for the sanitary and storm sewer systems and the pump stations to switch to this software as fewer major changes are anticipated in the near future. Following the project kickoff, wastewater treatment determined it would be simpler to migrate from the existing CMMS software to the new software and have it debugged with personnel gaining experience prior to the new plant's construction. The City has been examining a static database of City information Woolpert has prepared for testing and training purposes. Woolpert made modifications to incorporate the existing work order format, priority, and assignment. Recurring safety and administrative functions are being incorporated into the existing CMMS and will be migrated into this software. Ultimately, this software is planned to be used in much of the Public Works Department. A different method of communication to City Hall servers is required for communication speed improvements needed to run the software efficiently. Currently, the City's Information Technology staff is finalizing the contract that is to include this improvement.

**42" Force Main and WWTP Influent Routing**— Following the force main break discovered on January 10, 2008, a summary report in response to the PA DEP notice of violation for this January incident was sent to all parties identified in the Consent Decree. For this reason, this is not included in this quarterly report. During this quarter, the City paid the \$5640 fine requested by PA DEP to reimburse their expenditures as a result of the incident. The City proposed a counter to the \$10,000 fine request received from the PA Fish and Boat Commission and awaits a response. The City met with the suppliers about repair clamps to be used in the event of another failure in the force main with the goal of minimizing interruptions to normal operations during the repair.

A meeting was conducted with a developer desiring to develop the riverfront area in Reading surrounding the Sixth and Canal pump station. Different options for addressing the wastewater routing were discuss and B&V will be completing a feasibility study to compare the options and their associated costs. Due to the impact on the WWTP design hydraulics, this must be addressed shortly so as to not impact the design and construction schedule for the WWTP.

### **Laboratory and Administration**

**Land and Building** – The City purchased a parcel of land in 2005 adjacent to the wastewater treatment plant to be used for the construction of a new building for the administration and the laboratory. The City purchased a second adjacent parcel in

March 2007. On August 8, 2007, the City issued requests for proposals (RFPs) to perform a feasibility study and property survey for the proposed building needs, layout, and site work. The land survey and building feasibility study have both been completed as contracted. During this quarter, the City met with a construction manager to discuss the requirements for a LEED-certified 'green' building to be incorporated into the RFPs for the building architectural and engineering services as well as the civil engineering and permitting services RFPs being developed.

### **Administrative**

**Contributing Municipalities** - The City and B&V met individually with the municipalities that contribute flows to the City's wastewater system and plant. The purpose was to provide background information and the City's current status including technical information related to the Consent Decree requirements. Also, the City wanted to obtain current status of flow projections and I&I reduction efforts. Some municipalities and authorities had their own staff or officials in addition to the appropriate engineers. In addition to the Consent Decree requirements for plant upgrades and system projects, the need for municipal adoption of the City's sewer use ordinance was discussed as well as the need for ongoing communication regarding non-residential customers both being related to the industrial pretreatment program. Finally, the process to be followed when planning for new development and the use of PA DEP planning modules were discussed as well. Intermunicipal agreements are being reviewed briefly as they are a shorter duration than what is used for planning purposes for the capital improvements plan. Field meetings were conducted in the spring of 2008 to inspect each connection point, metering location, and terminal pumping stations to the City system as well as available mapping for the system. This information is being used to develop more accurate service area mapping by connection point. Follow-up meetings are being scheduled to view interconnection points between contributing municipalities and additional information requests have been made based upon the findings of each meeting.

**Funding** - Since the internal City customers' sewer bills are dependent upon the metered water consumption, City Council discussed an independent utility analysis of both the wastewater and water utility funds and inter-related financial operations due to the significant implications. A separate committee was formed to interface, develop a scope for the study, and select a consultant to perform this audit and analysis which will provide the City with the best long-term financial solution and ability to evaluate budgetary impacts. There has been no action with this committee. Some key aspects of this funding clarification were added to the RFP for the project management firm discussed above in paragraph 20.

**Response Times and Clarifications** - The City continues to work in good faith on compliance issues outlined within the Consent Decree. There is concern regarding delays in regulatory responses for questions posed during meetings or within progress reports. The City has not received responses to questions posed during the March 2006 meeting or the July 2006 teleconference or plans and reports submitted subsequent to that meeting. As investigative field work in the collection system intensifies, previously identified concerns regarding timeline discrepancies within the Consent Decree become more evident. Clarification will be critical to allow the City

to balance the allocation of resources in efforts to maintain compliance. The City would like the opportunity to meet and discuss proposed schedule revisions. This is a critical issue as the rehabilitation plan was due on January 15, 2008 which is prior to the commencement of the investigative work on which it is based.

**PA DEP Meetings** – Following the City Council award of the WWTP design contract to Black & Veatch, the City, B&V, and PA DEP met to discuss the project on April 28, 2008. Following a history of events for those new to the Reading situation, technical design, financial, and permitting issues were discussed. A separate meeting with the design engineer followed on May 15, 2008 to discuss particular issues with the construction permit submittal.

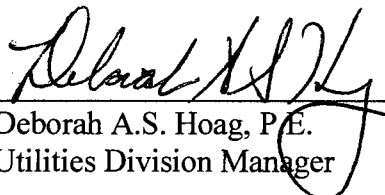
**NPDES Permits and Limits** – The NPDES permit renewal has not been received despite the permit expiration on May 1, 2006. Draft limits by one MGD increments have been provided for design purposes but a draft permit has not been received to date. During the discussion following the application, the reduction of permit limits by PA DEP seemed to be a forgone conclusion despite having a Consent Decree report stating the existing plant is unable to meet the limits consistently. The City would propose the concept of an extension of existing permit limits or interim limits during the construction phase until the new facilities are on-line. The City met with PA DEP's permit writer this quarter to discuss the discharge permit renewal as well as the construction permit review and issuance process. PA DEP's policy was explained to not renew an operating permit for a facility known to be undergoing an expansion or upgrade.

## **VI. REPORTING REQUIREMENTS**

### **41. Report Contents and Certification**

- (a) **Remedial Measures Paragraphs 7 through 40** – See above numbered sections.
- (b) **Anticipated Problems** – See italics in above numbered sections.
- (c) **Additional Matters** – See italics in above unnumbered sections.
- (d) **Certification Statement** –

I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my directions and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, the information submitted, is to the best of my knowledge and belief, true, accurate, and complete.

  
Deborah A.S. Hoag, P.E.  
Utilities Division Manager

08/01/2008  
Date



## CITY OF READING, PENNSYLVANIA

ENVIRONMENTAL DIVISION  
815 WASHINGTON STREET  
READING, PA 19601-3690

PUBLIC WORKS  
DEPARTMENT

October 30, 2008

Ms. Margaret L. Hutchinson, Esq.  
Assistant United States Attorney  
Civil Division Eastern District of Pennsylvania  
615 Chestnut Street  
Suite 1250  
Philadelphia, PA 19106-4476

Re: City of Reading Consent Decree  
Calendar Quarterly Progress Report  
3<sup>rd</sup> Quarter 2008

Dear Ms. Hutchinson:

In accordance with Section VI Reporting Requirements, Paragraph 41, you will find enclosed the City of Reading's Calendar Quarterly Report. This documents progress and status on the implementation of Section V Remedial Measures described in Paragraphs 7 through 40. Additionally, an update on the Angelica Stream Restoration SEP is included. Please feel free to contact me at 610-655-6258 should you have any comments or questions.

Sincerely,

Deborah A.S. Hoag, P.E.  
Utilities Division Manager

DH/eh

Cc: ✓ Christopher A. Day, Esq., US EPA  
Lisa Trakis, US EPA  
Lee McDonnell, PA DEP  
Shawn Arbaugh, PA DEP  
Charles M. Jones, P.E., Director of Public Works  
Ralph E. Johnson, Superintendent  
Stephen K. Hydro, P.E., Black & Veatch  
David A. Binder, Esq., Legal Counsel  
Keith Mooney, Esq., Legal Counsel

file



**City of Reading Consent Decree  
Calendar Quarterly Progress Report  
Period Ending September 30, 2008**

**V. REMEDIAL MEASURES**

**A. General Duties**

**7. Duty to Comply with Permit** – In progress. The City's wastewater treatment plant had one NPDES permit issue during this quarter. The laboratory took the pH on an effluent composite, not grab, sample on August 6<sup>th</sup>.

**8. Operation and Maintenance of the Facility** – In progress. The City continues work formalizing and documenting the operational and maintenance procedures related to the treatment plant, pump stations, collection system, and laboratory.

**B. Interim Measures**

**9. Interim Compliance – Environmental Management System**

**(a) Submission** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on May 5, 2006. *The City awaits a response for the approval of the system and its components listed below as proposed.*

**(b) Maintenance Management System** - Continuing progress. The City continues the planned implementation of improved and expanded use of the Antero computerized maintenance management system. This ongoing increased use of the maintenance management system includes recurring work orders for maintenance upon discovery of the unaddressed cause of any problem. The use of this system is treated as an ongoing tool for the facilities' operations and maintenance. The wastewater treatment plant will migrate to the new CMMS being developed for the collection system due to the interrelated operations and maintenance activities.

**(c) Supervisory Control and Data Acquisition (SCADA) system**

**1. Interim SCADA System** – Completed and certified.

**2. Upgrades to SCADA System** – Not applicable. Upgrades not required based upon the submission and approval of paragraph 18. While not required by the Decree, the City continues progress with this operational tool in planning for the future plant improvements and ensuring operational consistency. Black & Veatch (B&V) has been retained to oversee the SCADA development for consistency and the development of standards and conventions for future use in the plant upgrades. Additional operational parameters continue to be added to the SCADA system. Select existing screens have been modified for operational and visual consistency and modifications to additional screens are planned. During this quarter, B&V was on-site to install programming to enable standardized operational report generation as defined by the City. Troubleshooting is on-going to ensure accuracy and format. Finally, options to utilize the SCADA system as a reference tool have been



instituted such as for non-routine conditions such as emergency power utilization and equipment restart.

While not specifically part of the SCADA system, additional technology has been added as an aid to operations personnel. A display screen with three surveillance camera projections has been added to the belt filter press operators' room to improve effectiveness and efficiency by monitoring key process areas that are located remotely on different floors of the building.

**(d) Pretreatment Data Management System** – Continuing progress.

The City continues the ongoing data entry into a commercial pretreatment database as well as an abbreviated spreadsheet as analytical results are received from both City sampling and industry self-monitoring.

**10. Interim Plant Influent Monitoring** – Completed and continuing as required.

The City compares two meters on the force main from the Sixth and Canal pump station (6&C PS) to the WWTP. One is close to the 6&C PS while the other is at the WWTP. To this point, the City has used the meter at the WWTP for the influent loading calculation. This quarter, the metering disparity following independent calibration resulted in further investigation. The City investigated the 42" force main routing for any causes of disparity in metering. Due to the age (1959) and unknown condition of the primary device associated with the WWTP meter, the newer, non-invasive 6&C PS flow meter will be used from this point until this is no longer required due to physical changes to the influent lines.

As part of the influent monitoring, the City monitors the recycle flows as calculated from this influent load and the WWTP influent with recycles. A team has been created to evaluate and resolve questionable WWTP recycle loading data. This team has been assessing sample and flow data to determine the cause for what appears to be erroneous WWTP recycle data. A flow meter was added and sampling locations and techniques are being compared to assure representative samples are collected. Results of this ongoing assessment will be available in a future report.

**11. Interim Trickling Filter Performance Measures** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on February 17, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the request to change sampling locations for trickling filter continuing monitoring. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**(a) Performance Improvements** – Completed and ongoing as part of the Operations and Maintenance plan using the Computerized Maintenance Management System.

**(b) Unit Efficiency Monitoring Recirculation Rate** – Completed.

**(c) Recirculation Rate** - Completed with flow monitoring continuing for the primary recirculation. Since the identification of available piping, secondary trickling filter recirculation has been in continual use. The combined recirculation was increased from approximately 50% to 65% with marked improvements in the biological growth noted on the secondary trickling filters. City staff has made physical modifications to improve the flow metering for the secondary recirculation rate.

**(d) Longer Term Monitoring and Reporting** – Completed and continuing with modified locations as approved.

**12. Process Control Testing** – Completed and continuing as required. Plan submitted to US DoJ, US EPA, and PA DEP on February 7, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the request to change sampling locations for treatment units' continuing monitoring. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**13. Dangerous Gas Detection** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on February 7, 2006. Inspection and calibration are being done routinely and repairs are made when noted upon inspection.

**14. Certified Plant Operators** – The City currently has six shift supervisors who are assigned in categories as follows: day, evening, night, and rotating shifts, operational maintenance, and administrative. The supervisors began continuous coverage on November 1, 2006 as scheduled. To ease the tracking of licensed employees for the facility, a table has been developed for the facility's shift supervisors, and related City management staff. The facility currently requires a PA DEP Class A-2 for the plant and an E-4 for the collection system. These dual certification requirements have been extended to appropriate plant staff as they are also responsible for the pump station in the collection system. Shift supervisors, by virtue of their written job description, are required to pass the appropriate certification examination within twelve (12) months of hire or promotion into the position and all have done so. Most of the shift supervisors are new to the wastewater field. As a result, they are required to obtain the requisite operating experience prior to being issued their certification. As of the third quarter, all shift supervisors have received the appropriate PA DEP operator certification as detailed in the table below.

Employee	Title	PA DEP Certification
Charles M. Jones, P. E.	Director of Public Works	A,E – 1,2,3,4
Deborah A. S. Hoag, P. E.	Utilities Division Manager	A,E – 1,2,3,4
Ralph E. Johnson	Wastewater Superintendent	A,E – 1,2,3,4
Roger D. Hillibush	Operations Supervisor	A,E – 1,2,3,4
Russell L. Stoudt	Maintenance Supervisor	A,E – 1,2,3,4
Jackie C. Hendricks	Environmental Program Coordinator	A,E – 2,3,4
Amy L. Morriss	Laboratory Supervisor	A,E – 1,2,3,4
Gregory R. Fetter	Shift Supervisor – Operational Maintenance	A,E – 1,2,3,4
Robert E. Gensemer	Shift Supervisor - Administrative	A,E – 2,4
George E. Fultz, II	Shift Supervisor – Day	A,E – 2,4
Felix V. Stacherski	Shift Supervisor – Evening	A,E – 2,4
Jeffrey D. Hunt	Shift Supervisor – Night	A,E – 2,4
Daniel J. Dixon	Shift Supervisor – Rotating	A,E – 2,4

The selected treatment alternative, as approved under Paragraph 18, requires an A-1 certification which is not currently required for the existing treatment plant. Most managers already possess this certification and some of the shift supervisors

have studied and taken the activated sludge module in advance of the construction to be prepared for the plant's transition from trickling filters to activated sludge. Additionally, the City has been discussing flexibility with the certification wording with the AFSCME local representing first level supervisors so that changes in technology or certification requirements do not require additional contract negotiations. *As discussed in the March 21, 2006 meeting (and the July 10<sup>th</sup> telephone conference), the new supervisory employees do not have specific wastewater experience prior to their hire but are required to pass the certification exam within twelve months of hire. PA DEP certification experience and training requirements do not allow the issuance of the operator certification based solely on the passing of the examination. Alternate language was proposed due to the difficulty recruiting already certified personnel to fill these positions and the timing required to obtain certification to provide the level of staffing required. The City suggests changing from "individual shall be required to obtain certification within 12 months of the date of hire" to "individual shall be required to pass the certification examination within 12 months of the date of hire" While this is no longer an issue with the current supervisors, the City still awaits the formal response regarding the proposed alternate language in the event of a change in personnel.*

**15. Operations and Maintenance Plan - Completed.** Plan submitted to US DoJ, US EPA, and PA DEP on May 5, 2006. *The City awaits a response for the approval of the plan and its components listed as proposed.* Progress continues with future planned activities as discussed in the submitted plan. In the assessment of key processes, the City took action to eliminate bottlenecks and vulnerabilities to improve the performance of the existing plant. This was done as a necessary step to ensure regulatory permit compliance until the construction and start-up of the new facilities. These are the interim improvements required in the Capital Improvements Plan. The City continues to make additional improvements beyond the initial assessments as part of the continual reevaluation and optimization of plant operations. During this quarter, the digestion portion of the solids handling process was a prime focus as repairs near completion for a primary digester. While key operational components required were received, there was apparently a field modification made previously that the manufacturer did not have on record. As such, these components were modified to fit the application prior to installation. Installation is scheduled for early October and detailed plans are being made for the digester's second operational testing and return to service to ensure all is accomplished without any safety risks. The other area of focus was the liquid treatment specifically the ammonia summer permit limits. During April, preparations started for the change in permit limits to the lower summer levels. This included consulting with a micro-life biologist and performing Internet research on the operational challenges to be addressed. From this point, activities in the third quarter included treatment being completed on all cells with a standard operating procedure being produced and revised for future use. The frequency for this treatment will be assessed and is included as a recurring work order. Also, experimentation was performed to qualify and

quantify the treatment's effectiveness by measuring the number and type of micro-organisms present before and after the treatment.

**16. Staffing Plan** – Completed. Plan submitted to US DoJ, US EPA, and PA DEP on November 30, 2005.

**17. Interim Wet Weather Operational Strategy** - Completed. Plan submitted to US DoJ, US EPA, and PA DEP on November 7, 2006. Response received from US DoJ and EPA on May 9, 2008 approving the submission with notations about overflows and bypass relief points. Separate response received from PA DEP on May 9, 2008 approving the submission.

### **C. Long Term Evaluation and Construction Schedule**

**18. Treatment Plant Alternatives Submission** – Completed. See below.

**(a) Existing Plant Process Evaluation Report** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 17, 2006. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the selected liquid and solids treatment technologies. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**(b) Evaluation of Treatment Alternatives Report** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 17, 2006 and formal presentation of the report and findings conducted at March 21<sup>st</sup> meeting. Response received from US DoJ and EPA on May 3, 2006 approving the submission and the selected liquid and solids treatment technologies. Response received from PA DEP on May 23, 2006 acknowledging compliance.

**19. Capital Improvements Plan** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on February 16, 2007. Preliminary costs for biological treatment and solids handling facilities were developed as part of the plant and treatment alternatives report. Common facilities including headworks facilities, clarification, and disinfection are being included that were not required for the treatment alternative report. B&V is developing alternatives and cost estimates for wastewater routing between the 6<sup>th</sup> and Canal PS headworks and plant headworks as well as plant and pump station improvements required as a result with conservative cost estimates used for the submitted Capital Improvements Plan.

In the assessment of key processes for the Operations and Maintenance Plan, the City took action to eliminate bottlenecks and vulnerabilities as well as to evaluate and make cost-effective interim upgrades for performance improvements to the existing plant. This was previously submitted as part of the Operations and Maintenance Plan required by Paragraph 15. The City did this earlier than required as a perceived necessary step to ensure regulatory permit compliance until the construction and start-up of the new facilities. Additionally, the City continues to make improvements beyond the initial assessments as part of the continual reevaluation and optimization of the existing plant operations. This is ongoing with current update information noted above in Paragraph 15.

**20. Request for Proposals – Completed.** The City issued a request for qualifications (RFQ) for the implementation of the selected treatment alternative to identify design firms to be invited to submit a proposal in response to the City's request for proposals (RFP). The City assembled a committee comprised of internal and external, technical and non-technical reviewers to review qualifications and proposals, to score and rank firms, and to make recommendations to the administration and Council for the selection of the WWTP design firm. The selection committee conducted an interview for the WWTP design on February 15, 2008 and Council awarded the \$12,954,355 contract to Black & Veatch on March 24, 2008. The final contract was executed on June 23, 2008 with a retroactive effective date of March 25, 2008. The City received proposals for WWTP upgrades project management (PM) and construction management (CM) on April 15, 2008. Following interviews and further clarifications, an award recommendation was submitted to City Council for consideration at their June 9, 2008 meeting. Council awarded the \$7,825,075 contract for both project management and construction management to the team of Hill International/Weston Solutions/Hazen and Sawyer (HWH&S) on September 8, 2008. An advanced notice to proceed was issued September 9, 2008 so that work can commence while the contract terms are being finalized and the documents executed.

**21. Permit Applications and Design –Ongoing.** A summary of the progress reports received from B&V for the WWTP design preliminary engineering performed this quarter is attached. The City received, reviewed, and commented upon several technical submissions this quarter as discussed in the progress report.

A progress report received from HWH&S for the WWTP PM tasks performed this quarter is attached.

A separate contract for the WWTP survey was awarded to Bursich Associates with the work commencing during the first quarter in advance of the design contract award. The City conducted a coordination meeting with the design and survey firms and the firms have been communicating directly to achieve the deadline goals since then. This work was initially included in the WWTP design team's scope of work and has been problematic as a separate City contract with the work product used directly by the design team. One of the first tasks assigned to HWH&S as the PM was to evaluate and make a recommendation for action regarding this separate contract.

**22. Permitting – Not applicable.**

**23. Construction Completion – No progress.**

**24. Start-Up and Operation – No progress.**

#### **D. Collection System**

**25. GIS Mapping System - In progress. See below.**

(a) **Purpose of GIS System - Not applicable.**

(b) **GIS Mapping of the Sanitary Sewer Collection System – In progress.** The 2005 aerial photography of the collection system has been accepted following quality control checks by the City GIS Coordinator.

With the assistance of City sewer team personnel, ATS Chester began field data collection in July, 2006. The initial phase for field data collection is the sanitary interceptors and force mains with phase two being the remaining sanitary structures. The GIS mapping follows each phase's data collection with submission to the City for review and approval. This quarter, the City provided formal notification to ATS Chester regarding termination of their services and outstanding contractual obligations. During this quarter, the City also began updating the technical specifications in the prior RFP in preparation to issuing a new RFP for these services.

**(c) GIS Mapping of the Storm Water Collection System** - In progress. The third phase for field data collection and GIS mapping is the storm water system. Many of the structures were collected while ATS Chester performed phases one and two data collection, however since the GIS mapping for the sanitary system precedes the storm water system mapping, this is not available in final form from ATS Chester's work. This will be included in the new GPS RFP discussed above.

## **26. Sanitary Sewer System Evaluation Program**

### **(a) I/I Analysis by Subsystem**

**1. Baseline Flow and Rainfall** – In Progress. The flow monitoring and data reduction have been completed by B&V for the I&I analysis. A draft report was submitted to the City for review and comment. Limited reliable data was available for the existing system and tributary populations. Draft prioritization of areas and predictions for peak flows were developed; however, data is being refined as new information is received. The hydraulic modeling of the interceptors is a key to re-evaluating priorities based on projected bottlenecks that may exist. The City has met with all of the satellite municipalities to gather information on current and future populations, I&I mitigation programs, and definition of tributary areas. In addition, the City has progressed with its program for data collection on the City's system through GPS mapping.

**2. Hydraulic Modeling** – In Progress. The City has reviewed its system configuration and limitations for consideration in the selection of a hydraulic model. Based on the complexity of the system, B&V recommended a dynamic model named InfoWorks. Upon the receipt of a final data delivery from the GPS consultant on December 24, 2007, B&V set up and began calibrating the model. The data received still contained numerous apparent inaccuracies including incorrect pipe diameters which negatively impacts the hydraulic modeling. A detailed review of the data received was done to determine the extent of problems to be expected during the detailed hydraulic modeling. A test run of the hydraulic model with this data yielded 2700 errors which keep the model from running. In addition, there were 1800 warnings and

8800 information messages. This preliminary model run with the GPS data confirmed the concerns about the data quality. *The City has concerns about the schedule for completing the modeling based upon the ongoing issues with the quality of data received from the GPS field verification. This task is dependent upon the GIS mapping discussed above.*

**(b) Sewer System Evaluation Survey – In Progress.** The process for the SSES was initiated with the flow monitoring program for the I&I analysis. The City worked with B&V to develop a manhole numbering system for the sanitary sewer system. A preliminary assignment of identifiers was made to manholes indicated on available historical mapping. The numbering system will be refined as the GPS field inventory is conducted and the City is able to resolve discrepancies found between record drawings and the actual infrastructure in the field. Although not explicitly required within the Consent Decree, the City has engaged B&V to develop a maintenance, operation and management (MOM) plan for the collection system in order to help set priorities and standardize operations of City sewer crews. The MOM plan is intended to serve as a guide for the execution of the required SSES as well as ongoing future maintenance of the collection system. B&V has provided draft technical specifications for additional system evaluation to be conducted in accordance with the I&I report recommendations. The smoke testing RFP was advertised with proposals due August 14, 2008. One response was received which was evaluated compared to the RFP and an award recommendation was made by the selection committee to City Council. Council awarded the contract on September 22, 2008 with contract documents being finalized.

**27. Rehabilitation Plan – No progress.** *The SSES is required to commence by May 7, 2008 while the dependent rehabilitation plan is due prior to the study on which it is based.*

**28. Rehabilitation of Priority Areas of Collection System – No progress.**

**29. Wet Weather Operation Plan – Completed.** Plan submitted to US DoJ, US EPA, and PA DEP on May 7, 2007. Response received from US DoJ and EPA on May 9, 2008 approving the submission with notations about overflows and bypass relief points. Separate response received from PA DEP on May 9, 2008 approving the submission.

#### **E. Pretreatment Program**

**30. General Duty – In progress.** The City has an approved pretreatment program and continues to regulate industrial users in the collection system.

**31. Enforcement Response Plan (ERP) Implementation – In progress.** The City continues to follow the ERP in order to encourage compliance from all industrial dischargers. This is reported directly to US EPA with the quarterly compliance reports.

**32. ERP - Penalty Escalation and Compliance Schedule – In progress.** The City has been escalating penalties for all industries that are in significant non-compliance for a given parameter for two consecutive quarters. This is reported



directly with the quarterly industrial pretreatment status reports to US EPA. The City will continue with this reporting method for the future.

**33. ERP – Order, Permit Revocation, and Federal Referral** – In progress. The City continues escalating the enforcement actions focusing on the financial penalties assessed to permittees who remain in significant non-compliance. The City continues issuing penalties for compliance issues that were not fined previously such as pH, late reports, late sampling, and late permit applications.

**34. Local Limit Adoption by Contributing Municipalities** – In progress. Most of the municipalities have adopted the City's sewer use ordinance providing permitting and enforcement abilities for the City with industrial users. All the municipalities with permitted industries have adopted the ordinance. US EPA provided the status from the 2005 audit listing the municipalities requiring ordinance adoption. This has been discussed with solicitors and directly with individual municipalities in question. Electronic versions of the City's sewer use ordinance have been provided to each municipality, engineer, and/or solicitor to prepare for adoption. The City has requested notification and proof of ordinance adoption be submitted. During the first quarter, the City began working directly with a municipality and their solicitor to adopt the City's sewer use ordinance as a result of an investigation regarding a user adversely impacting system operations. Also, in preparing annual reports, the City became aware of a change in engineering support for an authority where both contributing municipalities have yet to adopt the ordinance. This requirement has been discussed with them and the electronic versions provided for their use. To date, neither has submitted proof of formally adopting the ordinance as requested.

**35. Non-Residential Connection Evaluation and Investigation** – In progress. The City has been working with the contributing municipalities to obtain information in order to send a survey to evaluate nonresidential users that may be subject to the pretreatment program. This has been requested among other submissions from individual municipalities. This was also discussed with the municipal meetings conducted in 2007 and municipal field meetings conducted in 2008. The initial survey and part of the user database has been developed and will be sent out by municipality in order to stagger the resultant workload of the evaluation and inspections that will result. The City will be requesting assistance from a consultant due to the large number of surveys and inspections required. The technical specifications for this RFP are under development.

**36. Increased Monitoring for Violators** – In progress. The City continues to increase City sampling and self-monitoring for frequent violators. In general, permits may be amended or re-issued requiring multiple resamples for parameters with prior compliance issues. Some permits require increased frequency of monitoring for multiple quarters of compliance prior to returning to a less frequent self-monitoring schedule. Additional monitoring by both the City and the industry is being tracked and reported to US EPA quarterly.

**37. Pretreatment Computerized Management System** - In progress and continuing. The City continues data entry into a commercial pretreatment database as well as an abbreviated spreadsheet upon receipt of analytical results from both City and industrial sampling.



**38. Local Limits Re-Evaluation** – Completed. Evaluation submitted to US DoJ and US EPA on May 5, 2006. Comments were received from US EPA and the City initially worked with B&V to address the comments and concerns. The City will be requesting assistance from a consultant to complete addressing the noted concerns due to timing. The technical specifications for this RFP are under development.

**39. Quarterly SNC Reports to US EPA** – In progress. The City continues to provide quarterly SNC reports to US EPA.

**F. Funding**

**40. Funding** – In progress. The 2008 budget was prepared to be presented to City Council with \$750,000 less in the transfer from the sewer fund to the general fund than in 2007. For 2007, the budgeted transfer amount is \$3,750,000 with the 2008 budgeted transfer amount being \$3,000,000.

**IX. CIVIL PENALTY**

**47. and 49. Penalty Amount and Payment Instructions** – Completed.

## **X. SUPPLEMENTAL ENVIRONMENTAL PROJECTS: Angelica Stream Restoration**

### **52. Details of SEPs listed below**

- a) **Background** - Not applicable.
- b) **Goals of SEPs** - Not applicable.
- c) **Removal of excess sediment and soil stabilization SEP** – Completed.
- d) **Angelica Creek Restoration SEP** – Completed.
- e) **Angelica Creek Riparian Buffer SEP** – Completed.
- f) **Wetland Creation SEP** – Completed.
- g) **Flood plain Meadow SEP** – Completed.
- h) **Annual Maintenance and Access to SEPs** – Ongoing. Seasonal maintenance and mowing has begun.
- i) **Design Costs and Final Plan** – Completed.
- j) **Defendant Certification** – Not applicable.
- k) **SEP Completion Report** – Completed. Report submitted to US DoJ, US EPA, and PA DEP on January 30, 2008 as part of the 4<sup>th</sup> calendar quarterly progress report.

The final construction permits were received during September, 2006. The project was advertised for construction bids during October, 2006. Bids were opened and a contract was awarded to E. Kuser, Inc., 150 Grings Hill Road, Sinking Spring, PA 19608, in the amount of \$1,131,161.13.

Signage and benches were installed early in the third quarter when punch list items were addressed. The Angelica Environmental Park ribbon cutting ceremony was held on July 28<sup>th</sup>. Seasonal maintenance and mowing will continue to be ongoing.

# **Black & Veatch WWTP Design Engineering Progress Report**

## Project Planning

- Coordinated with City on notice to proceed / contract award.
- Set-up project document controls (Cygnet).
- Met with subconsultants to review scope of work.
- Reviewed permitting requirements.
- Began development of project schedule.
- Attended PM / CM pre-bid.
- Began development of project staffing plan in coordination with project schedule.
- Began initial administrative set-up of project
- Prepared Agreement for Engineering Services that included the detailed project scope of services.
- Conducted project initiation meeting with the City on April 22, 2008.
- Continued development of resource loaded project schedule.
- Continued development of work plan and coordination of design managers.
- Continued planning for overall design requirements including oil and grease receiving facilities, digester gas cogeneration facilities, and maintenance building requirements.
- Continued planning activities for virtual design modeling.
- Continued review of potential impacts of Riverview development on plant design.
- Initiated hydraulic profile development for existing and proposed facilities.
- Initiated review of equipment manufactures.
- Reviewed firing range RFP as related to WWTP design.
- Reproduced City record drawings and provided disks with files to the City.

## Permitting

- Organized forms required for permit submissions to PADEP.
- Conducted project kickoff meeting with PADEP officials and City staff.
- Continued review of overall permitting requirements.
- Developed forms for initial PNDI search.
- Coordinated permitting activities with PADEP and City staff.
- Reviewed submittal and data requirements for construction permit submission.
- Reviewed requirements of DRBC for the project.
- Reviewed data for PHMC submittal requirements.

## Treatment Compatibility Testing

- Developed protocols and began planning for testing.
- Reviewed equipment requirements for bench scale testing.
- Purchased bench scale testing equipment.
- Constructed bench scale pilot testing units.
- Made arrangements to acquire seed sludge for testing.
- Developed sampling, shipping, and testing protocols for City wastewater.
- Began receiving wastewater from the Fritz Island WWTP and began operation of the pilot testing unit.
- Continued to receive wastewater from the Fritz Island WWTP and operate the pilot testing unit.

#### Site Investigations

- Met with third-party surveyor retained by the City to discuss the work.
- Reviewed and discussed initial formatting data formatting with the surveyor.
- Met on site with the geotechnical subconsultant to review the work.
- Reviewed available mapping for development of boring plan.
- Developed a phased approach for the geotechnical soil borings.
- Reviewed subconsultant tasks for wetlands investigations.
- Collected existing WWTP drawings from the City.
- Reviewed quality of surveyor submission to City and provided comments on additional information needed for design.
- Met on site with the geotechnical subconsultant to review the work.
- Researched and reviewed available information on the historic mining on the plant site.
- On site meeting with surveyor to review treatment processes and data needs.
- Review of drawing submittals by surveyor.
- Development of comment lists for surveying data deficiencies.
- Coordination of surveying status with City staff for invoice reviews.
- Review of subconsultant tasks.
- Completion of wetland investigations.
- Continued to review surveying data provided by surveyor contracted by City and provide comments and requests for additional information necessary for design.

#### Geotechnical Services

- Continued development of geotechnical investigation plan.
- Reviewed historical data/literature for old mine on plant site.
- Developed subconsultant scope of work and coordination of activities based on delays in the design contract review by the City.

#### Process Design Criteria

- Collected most recent WWTP operating data and began development of influent flow and load projections.
- Reviewed and analyzed influent loading data.
- Developed flow and load projections for the interim and final designs.
- Developed influent load model.
- Computed process treatment unit capacities.
- Developed preliminary solids quantities.
- Developed plant wide mass balance model to refine solids projections and ammonia balance.
- Developed process design criteria for Phase 1 design.
- Developed flow schematics and site plan for Phase 1 design.
- Developed process design criteria for Phase 2 design.
- Developed flow schematics and site plans for Phase 2 design.
- Prepared and submitted draft Technical Memorandum #2 – Process Design Criteria.

#### Preliminary Engineering Report

- Prepared preliminary site layout with proposed facilities.
- Continued development of the hydraulic profile for interim and final designs.
- Began development of process flow diagrams for:
  - Digester sludge heating and mixing
  - Digester gas
  - Dewatering
- Continued to develop the preliminary site plan.
- Began development of P&IDs for several of the process systems.
- Continued to develop construction sequence plan.

#### Oil and Grease Receiving and Processing Facilities Evaluation

- Researched FOG haulers and waste acceptors in the Reading area.
- Began sizing the FOG facilities.
- Developed FOG quantity projections for the Berks County Area.
- Developed preliminary sizing of FOG receiving facility based on quantity projections.
- Developed gas projections from FOG.
- Developed capital and O&M costs for FOG receiving facility.
- Worked on draft Technical Memorandum #3 – Oil and Grease Receiving and Processing Facilities Evaluation.

#### Digester Gas and Sustainability Feasibility Analysis

- Developed biogas utilization options.
- Developed projected biogas production.
- Developed energy recovery estimates for the utilization options.
- Developed capital and O&M costs and benefits for the biogas utilization options.
- Worked on draft Technical Memorandum #4 – Digester Gas and Sustainability Feasibility Analysis.

#### SCADA Review

- Began SCADA system and software evaluation.

## **Hill/Weston Solutions/Hazen & Sawyer WWTP Upgrades PM/CM Progress Report**

A Notice to Proceed was issued on September 9, 2008; a Project Kickoff meeting was held 15 Sep, 2008. The following tasks were worked on during this reporting period:

### **Task**

#### *Project Management:*

- Attended several meetings w/ the client, including the referenced kickoff meeting where short term priorities were outlined. These directed priorities were: provide a recommendation on the Surveying issue, begin work on the Value Engineering process, begin work on the Project's Financial components—Grant Funding and Analysis.
- Surveying Issue: provided a draft recommendation to the client. Preliminary work included meetings and correspondence w/ Bursich (Greg Gress), Black & Veatch (Steve Hydro, Bob Rinne) and the client.
- Began reviewing client provided project documentation (i.e. Consent Decree, A/E contract, etc).
- Conducted a Hill/Weston/Hazen-Sawyer kickoff meeting; verified project assignments and responsibilities and communication flow. Began establishing project administration systems.
- Attended a meeting w/ the client and PA DEP; conducted a site tour and attended a UV demonstration on site.
- Established communication w/ Black & Veatch; requested design schedule(s).
- Worked our contract w/ the client for PM/CM Services.

#### *Project Controls:*

- Began developing and integrating a conceptual design schedule into the overall project schedule (will refine once the designer schedule(s) are received).
- Loaded project schedule tasks (resources and costs) for the PM/CM component.
- Scoped software options for three primary PM/CM requirements: project schedule/cost control, CM process control and document control/virtual file storage.

*Cost Estimating:* N/A

#### *Value Engineering:*

- Reviewed project documents, including Consent Decree, in preparation for an October internal VE kickoff meeting.

*Design Review/Tech Support:* N/A

*Regulatory Compliance:* N/A

*Grant Funding:*

- Held an internal Financial kick-off meeting; reviewed project financial objectives in preparation for an October kick-off meeting w/ the client.

*Financial Analysis:*

- See bullet above.

*Public Relations:* N/A

*Surveying:* N/A

*Construction Management:* N/A

*Resident Engineer:* N/A

*Inspection:* N/A

*Health and Safety:* N/A

*Start-up:* N/A

## **Additional Items related to Consent Decree**

### **Personnel**

**Operator Certification** – In 2005, the City administration supported management in both water and wastewater during AFSCME contract negotiations. The administration interpreted the new DEP certification regulation to compel certain rank and file AFSCME positions to obtain PA DEP operator certification. Personnel in those positions are given 24 months in which to pass the appropriate certification exams. New hires or transfers into operations are advised of the certification need initially and given materials to read and review as part of their orientation and training. Based on the AFSCME contract language, July 15, 2007 was the initial date for employees who were in operational positions 24 months ago to be required to be certified. From there, new employees' certification requirements are being tracked based on the position start date. The positions requiring certification are Fritz Island Operator (Plant Operator), Pump Tender, and Belt Filter Press Operator (Solids Operator). The first two positions each have four people to provide continual coverage while the last position currently has two people providing two shifts weekdays and weekend coverage as needed. The new AFSCME contract allows some additional flexibility related to uncontrollable changes in certification requirements due to process changes or regulatory changes. There was one change in personnel impacting certification with the solids operator – day shift who was certified vacating the position and the replacement beginning the certification process. The following table shows the certification status of the rank and file employees in the positions requiring certification. This quarter six rank and file employees sat for the certification examination. One received his certification following successful results and the Board approval. Three are awaiting the certification board meeting to review their qualifications and vote on their certification.

<b>Position</b>	<b>PA DEP Certification</b>
Plant Operator - Day	A,E - 2,3,4
Plant Operator - Evening	A,E - 2,3,4
Plant Operator - Night	E - 4 Passed exam A – 2
Plant Operator - Rotating	Passed exam A,E -2,4 Awaiting Board
Pump Tender – Day	Passed exam E – 4 Due by 06/18/2009
Pump Tender - Evening	A,E -2,4
Pump Tender - Night	Passed exam A,E –2, 4 Awaiting Board
Pump Tender – Rotating	Passed exam E – 4 Due by 07/16/2009
Solids Operator - Day	Due 06/16/2010
Solids Operator - Evening	Passed exam A,E – 2,4 Awaiting Board

### **Operations and Maintenance**

**19<sup>th</sup> Ward PS Overflow Monitoring** –The chart recorder is a daily chart per the recommendations of the hydraulic engineer studying the site. This is to enhance the ability to review pump operations during adverse conditions. Additionally, the



secondary wet well level sensor that controls the pumps under high flow conditions has a separate chart recorder added for monitoring. This is being used to monitor the duration of any future overflows from this station. The system showed no overflows occurred during this quarter which was verified by operations staff performing routine inspections. This monitoring evaluation will continue as field-verified levels for potential overflows are determined. This quarter, oil and grease problems continued with ongoing investigation by plant, system, and pretreatment personnel as well as the contributory municipalities. A coordinated sampling effort including video monitoring of the wet well were conducted while investigating the problem. Some samples appear to be septic in nature similar to an illegal discharger or 'midnight dumper.' After many weeks with no issues, the video surveillance was removed only to have the issue resurface shortly thereafter. Investigations continue looking at larger private system connections to the public sanitary sewer system.

**Computerized Maintenance Management System (CMMS) for Collection System**– To adequately perform and document an ongoing infiltration and inflow program, catalog televisual inspection, and track service calls and repairs in the collection system, the City determined the need for a formal method to catalog the information. Geographical documentation of this information was the selected method for the database structure. The original intent was for the sanitary and storm sewer systems and the pump stations to switch to this software as fewer major changes are anticipated in the near future. Following the project kickoff, wastewater treatment determined it would be simpler to migrate from the existing CMMS software to the new software and have it debugged with personnel gaining experience prior to the new plant's construction. The City has been examining a static database of City information Woolpert has prepared for testing and training purposes.

Woolpert made modifications to incorporate the existing work order format, priority, and assignment. Recurring safety and administrative functions are being incorporated into the existing CMMS and will be migrated into this software. Ultimately, this software is planned to be used in much of the Public Works Department. A different method of communication to City Hall servers is required for communication speed improvements needed to run the software efficiently as viewing the static database is rather challenging to our communication system. During the third quarter, Public Works learned that the improvements planned by the City's Information Technology staff are only of a short-term, temporary nature. Other alternatives are being explored by Public Works using utility services that are already present at the WWTP.

**42" Force Main and WWTP Influent Routing** – Following the force main break discovered on January 10, 2008, a summary report in response to the PA DEP notice of violation for this January incident was sent to all parties identified in the Consent Decree. For this reason, this is not included in this quarterly report. During the second quarter, the City paid the \$5640 fine requested by PA DEP to reimburse their expenditures as a result of the incident. The City proposed a counter to the \$10,000 fine request received from the PA Fish and Boat Commission and received a counterproposal for a fine of \$5,000 and a modified agreement for review.

The City met with the suppliers about repair clamps to be used in the event of another failure in the force main with the goal of minimizing interruptions to normal

operations during the repair. The City ordered and received encapsulating repair clamps to fit over the line in the event of a similar situation with force main. A meeting was conducted with a developer desiring to develop the riverfront area in Reading surrounding the Sixth and Canal pump station. Different options for addressing the wastewater routing were discussed and B&V will be completing a feasibility study to compare the options and their associated costs. Due to the impact on the WWTP design hydraulics, this must be addressed shortly so as to not impact the design and construction schedule for the WWTP.

### **Laboratory and Administration**

**Land and Building** – The City purchased a parcel of land in 2005 adjacent to the wastewater treatment plant to be used for the construction of a new building for the administration and the laboratory. The City purchased a second adjacent parcel in March 2007. On August 8, 2007, the City issued requests for proposals (RFPs) to perform a feasibility study and property survey for the proposed building needs, layout, and site work. The land survey and building feasibility study have both been completed as contracted. During this quarter, the City developed the civil engineering and architectural services RFPs and distributed them for internal comment. The City contacted a local design professional for review as related to the coordination and requirements for a LEED-certified ‘green’ building from design through construction and commissioning. After internal discussion on the process, the City decided to develop a separate RFP for a commissioning agent.

### **Administrative**

**Contributing Municipalities** - The City and B&V met individually with the municipalities that contribute flows to the City’s wastewater system and plant. The purpose was to provide background information and the City’s current status including technical information related to the Consent Decree requirements. Also, the City wanted to obtain current status of flow projections and I&I reduction efforts. Some municipalities and authorities had their own staff or officials in addition to the appropriate engineers. In addition to the Consent Decree requirements for plant upgrades and system projects, the need for municipal adoption of the City’s sewer use ordinance was discussed as well as the need for ongoing communication regarding non-residential customers both being related to the industrial pretreatment program. Finally, the process to be followed when planning for new development and the use of PA DEP planning modules were discussed as well. Intermunicipal agreements are being reviewed briefly as they are a shorter duration than what is used for planning purposes for the capital improvements plan. Field meetings were conducted in the spring and summer of 2008 to inspect each connection point, metering location, and terminal pumping stations to the City system as well as available mapping for the system. This information is being used to develop more accurate service area mapping by connection point. Follow-up meetings have been conducted to view interconnection points between contributing municipalities and additional information requests have been made based upon the findings of each meeting.

**Funding** - Since the internal City customers’ sewer bills are dependent upon the metered water consumption, City Council discussed an independent utility analysis of

both the wastewater and water utility funds and inter-related financial operations due to the significant implications. A separate committee was formed to interface, develop a scope for the study, and select a consultant to perform this audit and analysis which will provide the City with the best long-term financial solution and ability to evaluate budgetary impacts. There has been no action with this committee. Some key aspects of this funding clarification were added to the RFP for the project management firm discussed above in paragraph 20. This forensic review is an initial task to be initiated by the PM.

**Response Times and Clarifications** – The City continues to work in good faith on compliance issues outlined within the Consent Decree. There is concern regarding delays in regulatory responses for questions posed during meetings or within progress reports. The City has not received responses to questions posed during the March 2006 meeting or the July 2006 teleconference or plans and reports submitted subsequent to that meeting. As investigative field work in the collection system intensifies, previously identified concerns regarding timeline discrepancies within the Consent Decree become more evident. Clarification will be critical to allow the City to balance the allocation of resources in efforts to maintain compliance. The City would like the opportunity to meet and discuss proposed schedule revisions. This is a critical issue as the rehabilitation plan was due on January 15, 2008 which is prior to the commencement of the investigative work on which it is based.

**PA DEP Meetings** – Following the City Council award of the WWTP design contract to Black & Veatch, the City, B&V, and PA DEP met to discuss the project on April 28, 2008. Following a history of events for those new to the Reading situation, technical design, financial, and permitting issues were discussed. A separate meeting with the design engineer followed on May 15, 2008 to discuss particular issues with the construction permit submittal. With funding being a priority task for the PM, future coordination meetings with PA DEP are anticipated due to the inter-relationship with Pennvest and the stat revolving loan fund for low interest infrastructure financing.

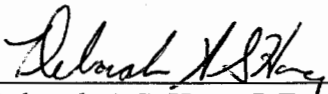
**NPDES Permits and Limits** – The NPDES permit renewal has not been received despite the permit expiration on May 1, 2006. Draft limits by one MGD increments have been provided for design purposes but a draft permit has not been received to date. During the discussion following the application, the reduction of permit limits by PA DEP seemed to be a forgone conclusion despite having a Consent Decree report stating the existing plant is unable to meet the limits consistently. The City would propose the concept of an extension of existing permit limits or interim limits during the construction phase until the new facilities are on-line. During a meeting in May 2008, the permit writer explained PA DEP's policy to not renew an operating permit for a facility known to be undergoing an expansion or upgrade.

## VI. REPORTING REQUIREMENTS

### 41. Report Contents and Certification

- (a) **Remedial Measures Paragraphs 7 through 40** – See above numbered sections.
- (b) **Anticipated Problems** – See italics in above numbered sections.
- (c) **Additional Matters** – See italics in above unnumbered sections.
- (d) **Certification Statement** –

I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my directions and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, the information submitted, is to the best of my knowledge and belief, true, accurate, and complete.

  
\_\_\_\_\_  
Deborah A.S. Hoag, P.E.  
Utilities Division Manager

10/30/2008  
Date